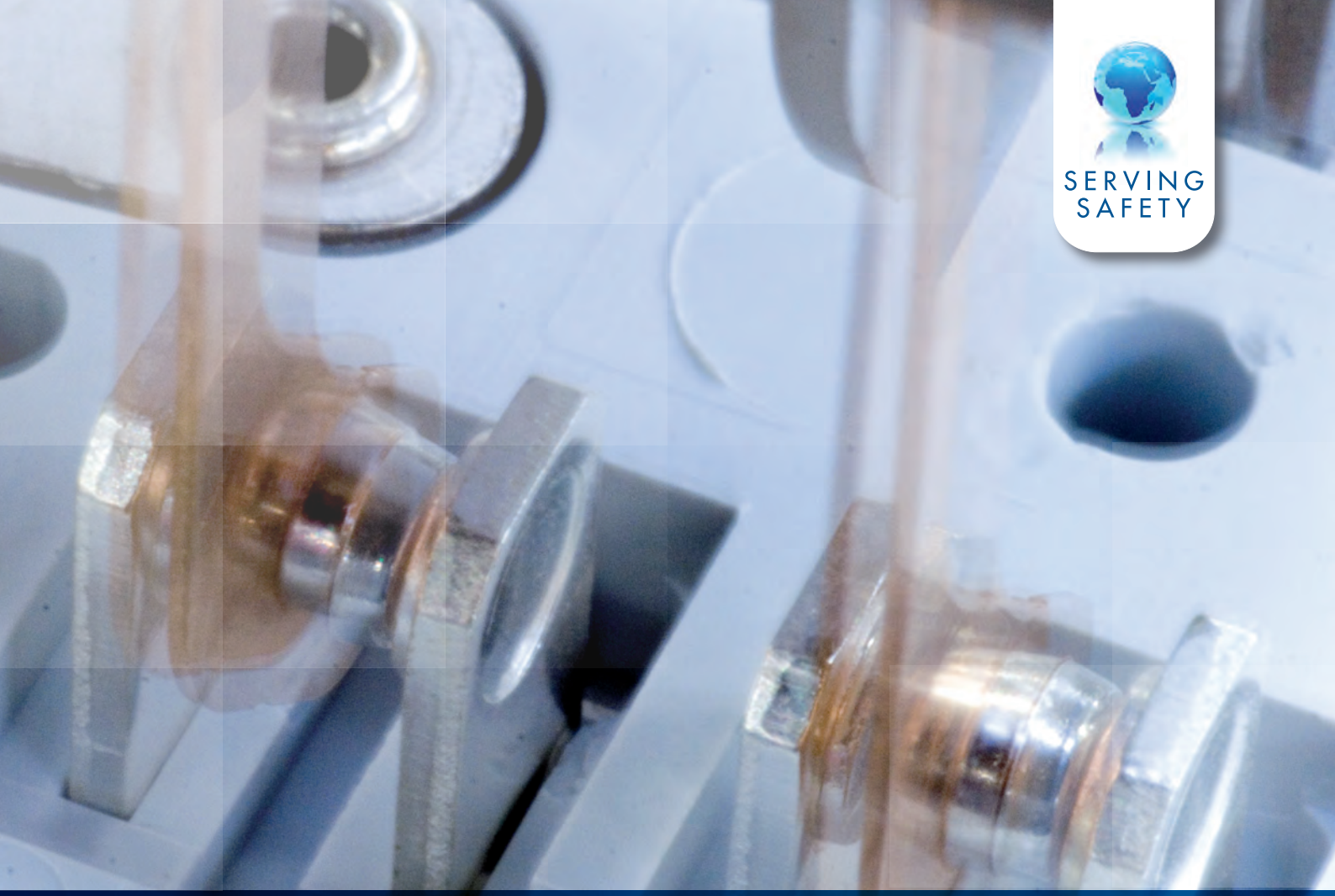


SERVING SAFETY

Mors Smitt Industrial Technology

Heavy duty relays

Mors Smitt
A Wabtec Company

SERVING SAFETY

Mors Smitt Industrial Technology

Heavy duty relays

SERVING SAFETY

Mors Smitt - Industrial Technology

Mors Smitt has been manufacturing relays since 1902. Our wide relay portfolio is focused on markets sectors like; power generation & distribution, factory automation, petro-chemical and water treatment plants and general industrial requirements. Production is flexible, standards unforgiving. Many units are tailored to specific client requirements. All products go through extensive testing processes with both hardware and production methodology approved to the highest standards.

Heavy duty relays

The unique D-relay concept is specifically designed to solve demanding applications in the power utility market; high DC breaking capacity and inductive load switching offering long electrical life and low life cycle costs.

The *Solve-All* relay application concept offers ultimate flexibility to design and supply tailor made D-relay products. Today these relays are used in its millions across the world.

General purpose relays

The general purpose relay portfolio offers solutions for all generic automation application. More details are defined in the 'General purpose relays' catalogue.

Reliability

Worlwide availability is assured by a network of professional, trained and dedicated subsidiaries, distributors and agents, offering local service and support.

Mors Smitt has certified quality and environmental management systems according the leading inter-nationals standards. ISO 9001:2008 and ISO 14001 are obtained.

Mors Smitt not only has a clear eye directed at reliability, dependability, safety and cost-effectiveness, but also to the demands of our planet. Environmental consciousness is woven closely into design, manufacturing and commercial operations. The company is contributing to the safety of the world in more ways than one.

Mors Smitt
A Wabtec Company

Mors Smitt is part of Wabtec Corporation, the NYSE stock exchange listed, global supplier of highly engineered components and solutions for rail and selected industrial markets. Operations in 17 countries and world wide sales in over 100 countries. Wabtec Corporation holds over 1.200 patents and has world class internal processes based on lean manufacturing and continuous improvement principles (Wabtec Performance System).

Within the Wabtec group Mors Smitt has its own name & identity and is focused on satisfying the needs of customers in the power grid, industry and installation sectors.

Utrecht, January 2015

Content

Heavy duty relays

Standards & approvals

Standards & approvals

SMITT RELAYS are designed and manufactured with utmost care for reability and durability. The relays are in compliance with the leading international standards.

EN 60255	Relay design, specifications and environmental conditions. Electrical relays.
EN 61810	Relay design, specifications and environmental conditions. Basic relays.
EN 60947	Low voltage switch gear and control gear.
EN 60947-4-1	Electromechanical contact and motor starters.
EN 60947-5-1	Electromechanical components for control applications. This standard examines both coil and contact specifications in depth.
VDE 0435	German standard specifies regulations for electrical relays in control applications, which are related to EN 60947 and EN60255.
EN 60529	European standard describes the protection class (IP code). This standard corresponds to VDE 0470 and DIN 40050.
EN 50205	European standard specifying weld no transfer contacts.
Approvals	Are mentioned at each specific relay series (VDE, UL, CSA, CCC, Lloyd´s, etc.).

General specifications

C-, D- and A&B-relays have been developed for more demanding applications and have plug-in bases with flat and silver or tinplated pins for optimum and long lasting contact between relay and socket.

Contact descriptions

	International	USA	ANSI
Normally open contact	N/O	SPST-NO	form A
Normally closed contact	N/C	SPST-NC	form B
1 changeover contact	1 C/O	SPDT	form C
2 changeover contacts	2 C/O	DPDT	form C
3 changeover contacts	3 C/O	3PDT	form C
4 changeover contacts	4 C/O	4PDT	form C
1 Double break / double make contact	1 C/O DB/DM	SPDT (DB/DM)	form Z
4 Double break / double make contact	4 C/O DB/DM	4PDT (DB/DM)	form Z

SERVING SAFETY

Heavy duty relays

D -relays

The industrial plug-in D-relays are based on the unique *Solve-All* design concept and can be used in both AC and DC voltage networks.

The relays are able to switch resistive as well as inductive loads in heavy duty demanding applications, depending on the options included.

We offer instantaneous, latching and function relays as well as time, measuring and monitoring relays.

Power generation and distribution operators across the world rely on the *Solve-All* relay concept

Content

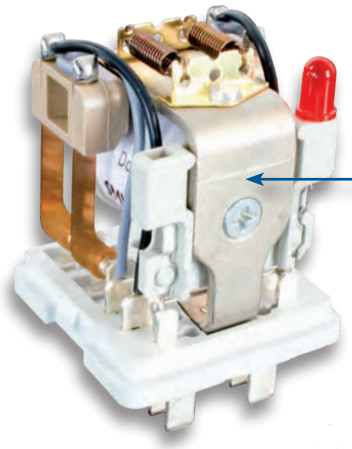
SERVING SAFETY

D-relays

Solve-All relay concept

Design features

The unique D-relay concept is specifically designed to solve demanding applications (for example in the power utility market); high DC breaking capacity and inductive load switching, offering long electrical life and low life cycle costs. The *Solve-All* relay application concept offers ultimate flexibility to design and supply tailor made D-relays.



Joke + springs
The joke + springs system is adjusted to calibrate the contact pressure of the normally closed contacts.

Suitable for hazardous areas
Corrosion resistant.
Shock & vibration resistant.
Integrated snap-lock.

Fast switching
Standard pull-in times.
DC coil: 20 ms
AC coil:10 ms
Including option R
D-R coil: <7 ms

Cover
Transparent cover for visual check. On the top clear indication of type, contact arrangement and coil voltage.

LED indicator
Is especially connected in series with a section of the coil and therefore checking the coil performance besides indicating coil voltage presence.

Switching capacity
1 mA...10 A (200 A overload).
High DC breaking capacity.
Can be increased with option B, magnetic arc blowout.

Contacts
Up to 4 changeover contacts.
Standard, Ag contact material.
$AgSnO_2$ or goldplated contact material on request.
Calibrated contact pressure.

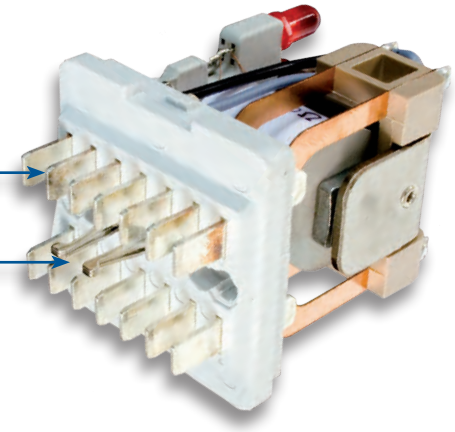
Back EMF diode
Integrated to surpress the back EMF from de-energizing the coil, to protect the external electronic control system connected to the relay.

Sockets
We offer a wide range of mounting sockets for wall, rail, flush or PCB mounting. Connections with screw, cageclamp, faston, soldering or crimp terminals.

Also available with 8 changeover contacts in bigger housing (model D8-UL & KDN).

Smitt-style pinning
14 silver plated, flat pins, for excellent, low resistant connection and protection against corrosion.

Snap lock
Integrated relay retaining clip for sturdy mounting in the socket and prevents an external clip/spring.



SERVING SAFETY

D

Standard relay
10 A, 4 C/O

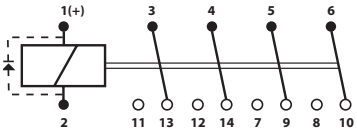
Heavy duty applications, switching of AC & DC voltages, resistive and inductive loads.

- Plug-in
- 4 C/O contacts
- DC (with back EMF diode) and AC coil
- LED indicator (standard)
- Cadmium free contacts

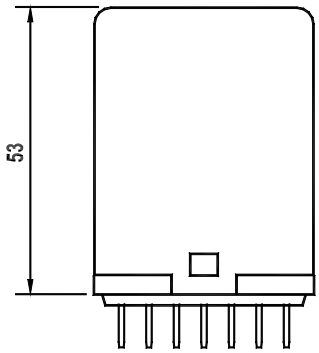
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

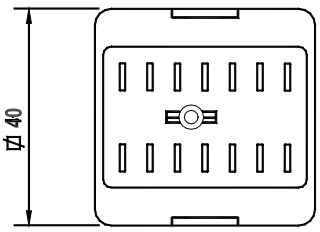
Pin arrangement
Smitt-style

Connection diagram



Dimensions





Contact specifications

Contact material	Ag
Number & configuration	4 C/O
Rated continuous current	10 A
Breaking capacity AC 1	10 A / 230 V
Breaking capacity DC1	1 A / 110 V
Max. make current	16 A
Max. switching voltage	350 VDC / 440 VAC
Min. switching voltage	12 V
Min. switched current	10 mA (Au, 1 µV, 1 µA)
Peak inrush current	200 A (withstand ≥10 x 200 A @ 10 ms, 1 min)

Coil specifications

Nominal voltage (U_n DC)	12, 24, 48, 72, 110, 125, 220, 250 VDC
Nominal voltage (U_n AC)	12, 24, 48, 72, 100, 120, 230, 350, 380 VAC
Power consumption (AC/DC)	2 VA / 2 W
Operating range	0.8...1.1 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles (AC/DC)	10 x 10^6 / 50 x 10^6
Dielectric strength, coil-contact	2500 VAC
Dielectric strength contacts	4000 VAC
Isolation class	C 380
Pull-in time DC/AC	≤ 20 / 10 ms
Release time DC/AC	18 / 5 ms
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	125 g
Dimensions	40 x 40 x 53 mm
Protection category	IP40

Options See page 14.

Remarks: Standard AC coil is 50 Hz, 60 Hz coil on request. Other voltages on request.

Most common types

D	24 VDC	330219702
D	48 VDC	330219703
D	110 VDC	330219706
D	24 VAC 50 Hz	330219752
D	230 VAC 50 Hz	330219757

For more types check your local sales office, also check example ordering scheme on page 74

Options D-relays
Solve-All relay concept

Options

The D-relays (and derived models) can be equipped with options mentioned below. This *Solve-All* concept allows composing the D-relay to solution for almost any relay.

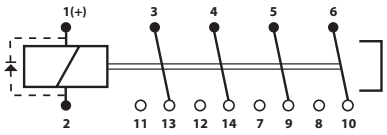
Note: Not all options or combinations are possible. Check possible options and combinations with your local distributor or our sales department.

Contact options

The following options can affect the contact configuration in number contacts and contact specifications:

B — **Option B**
Magnetic arc blow-out
(for DC and inductive loads)

Ensures a high DC breaking capacity and longer contact life.



E — **Option E**
Goldplated contacts (10 µm)
Cannot be combined with option M

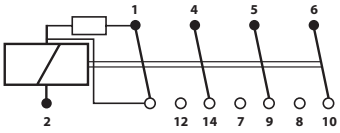
Low contact resistance and good resistivity against corrosive atmosphere. Suitable for switching low level dry circuit loads.

M — **Option M**
$AgSnO_2$ contacts, high resistance to welding
Cannot be combined with option E

For safety and vital applications, minimum contact current is 100 mA.

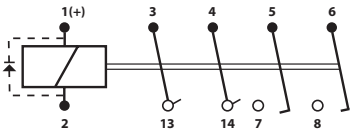
R — **Option R**
Fast switching, pull-in time <7 ms for DC coil only
Cannot be combined with option L

For reduction of total switching time in citical circuits. Suitable for energy controlling systems. Relay has 3 C/O contacts, no LED and no diode.



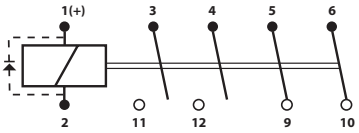
X4 — **Option X4**
Make before break contacts
2 N/O 2 N/C

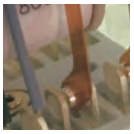
Contacts 5-7 and 6-8 will make before contacts 3-13 and 4-14 will break. During release, the contacts 3-13 and 4-14 will make before contacts 5-7 and 6-8 will break.



X5 — **Option X5**
Contact gap 2 mm 2 N/O 2 N/C

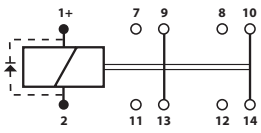
Higher DC breaking capacity and longer contact life. To increase the breaking capacity and contact life more. This option can be combined with option B and Y.





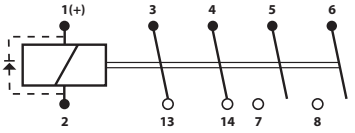
Y — **Option Y**
Double make / double break contacts 2 N/O 2 N/C

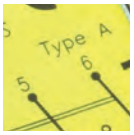
Breaking capacity increased by 50% and longer contact life. To increase the breaking capacity and contact life more this option combine with option B and X5.



W — **Option W**
Weld-no-transfer

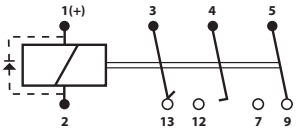
Suitable for safety application according EN 50205. Available with different contact configurations.
See page 21 for more information.

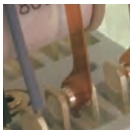




11 — **Option 11**
Make before break contact
1 C/O 1 N/O 1 N/C
(safety application)

Contact 4-12 will make before contact 3-13 will break during pull-in. During release, contact 3-13 will make before contact 4-12 will break. Contact 5-7/9 is a normal change over contact



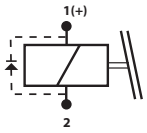


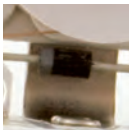
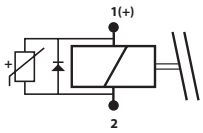
Options

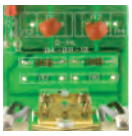
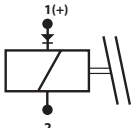
Coil options

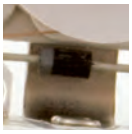
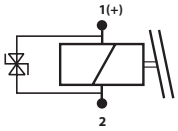
The following options affect the coil specifications:

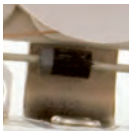
D	**Option D** Back EMF diode for system protection, BYW45 philips (standard in DC coil)	When a coil is switched off, a large back EMF appears across the coil. This back EMF may be several hundred volts in value, enough to destroy a transistor.
H	**Option H** High burden protection DC 110 VDC 220 VDC, 10 µF, 150% U_n	Provides immunity to capacitive discharge current & power. Suitable for application in high security circuitbreaker tripping circuits. Relay is 76 mm high.
P	**Option P** Polarisation diode	Protection against reversed polarity.
Q	**Option Q** Double zener diode over coil	Transient voltage supressor for protection of the coil and back EMF.
V	**Option V** Wider operating range and ambient temperature (DC)	Operating range 0.7...1.25 U_n DC Ambient temperature -25 °C...+70 °C Power consumption 2.22 W
X2	**Option X2** Rectifier circuit	Universal AC/DC coil.
X3	**Option X3** Reversed polarity (DC)	Contact 1 = negative (-) Contact 2 = positive (+)
Z	**Option Z** Polarity independent	No diode and no LED.

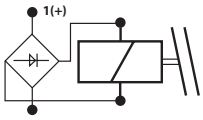


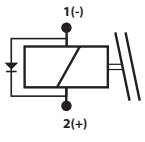



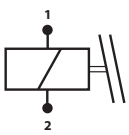





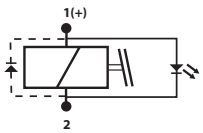
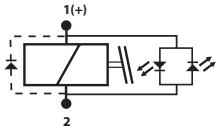





Options

General options

The general options are options for better performance and maintenance and do not affect the contacts or the coil.

A	**Option A** Trip indicator *Cannot be combined with option K*	Indicates the relay has been energised	
C	**Option C** Low temperature (-40 °C) Max. contact current 8 A	Makes the relay more suitable for operation at extreme low temperatures.	
K	**Option K** Cover sealed with sealant *Cannot be combined with options A & T*	Cover sealed to make the relay IP50	
L	**Option L** LED integrated in coil	LED is standard in all industrial instantaneous relays. When the coil is broken the LED does not illuminate.	 
S	**Option S** Mechanical position indicator *Cannot be combined with option T*	Visual indication of position of the contacts	
T	**Option T** Push-t0-test button *Cannot be combined with options K & S*	To manual operate the contact mechanically	
X	**Option X** Bi-directional LED		
	Option colour coding Coloured cover (coil voltage coding)		
	Option keying Coil coding relay & socket	To prevent wrong installation A104 - key receptable A111 - keying pin	

SERVING SAFETY

D-B

High DC breaking capacity
10 A, 4 C/O (7 A, DC 1)

Heavy duty applications, switching of AC & DC voltages, resistive and inductive loads.

- Plug in
- 4 C/O contacts
- DC (with back EMF diode) and AC coil
- Flash barriers
- LED indicator (option L standard)
- Cadmium free contacts
- 'Smitt-style' pinning with integrated retaining silver plated clip
- Magnetic arc blow-out (option B, standard)

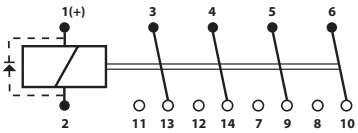
Standards

EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

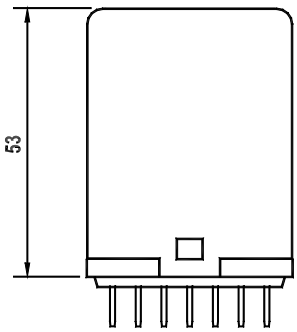
Pin arrangement

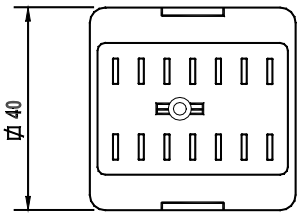
Smitt-style

Connection diagram



Dimensions





Contact specifications

Contact material	Ag
Number & configuration	4 C/O
Rated continuous current	10 A
Breaking capacity AC 1	10 A / 230 V
Breaking capacity DC1	7 A / 110 V
Max. make current	16 A
Max. switching voltage	350 VDC / 440 VAC
Min. switching voltage	12 V
Min. switched current	10 mA (Au, 1 µV, 1 µA)
Peak inrush current	200 A (withstand ≥10 x 200 A @ 10 ms, 1 min)

Coil specifications

Nominal voltage (U_n DC)	12, 24, 48, 72, 110, 125, 220, 250 VDC
Nominal voltage (U_n AC)	12, 24, 48, 72, 100, 120, 230, 350, 380 VAC
Power consumption (AC/DC)	2 VA / 2 W
Operating range	0.8...1.1 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles (AC/DC)	10 x 10^6 / 50 x 10^6
Dielectric strength, coil-contact	2500 VAC
Dielectric strength contacts	4000 VAC
Isolation class	C 380
Pull-in time DC/AC	≤ 20 / 5 ms
Release time DC/AC	18 / 5 ms
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	140 g
Dimensions	40 x 40 x 53 mm
Protection category	IP40

Options See page 14.

Remarks: Standard AC coil is 50 Hz, 60 Hz coil on request. Other voltages on request.

Most common types

D-B	24 VDC	330219802
D-B	48 VDC	330219803
D-B	110 VDC	330219806
D-B	24 VAC 50 Hz	330219852
D-B	230 VAC 50 Hz	330219857

For more types check your local sales office

D-R

Fast switching
10 A, 3 C/O

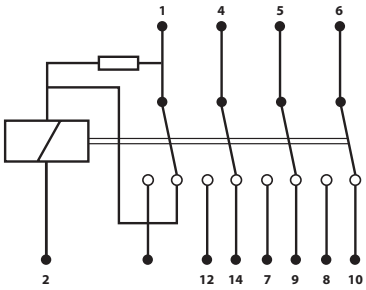
Heavy duty applications, switching of AC & DC voltages, resistive and inductive loads.

- Plug-in
- 3 C/O contacts
- Cadmium free contacts
- 'Smitt-style' pinning with integrated retaining silver plated clip
- Fast switching <7 ms (for DC only) (option R, standard)

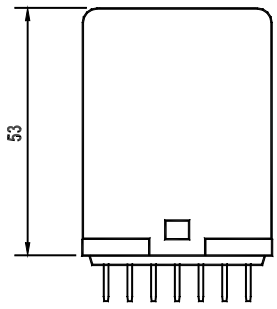
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

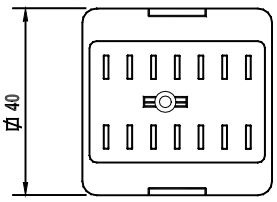
Pin arrangement
Smitt-style

Connection diagram



Dimensions





Most common types

D-R	24 VDC	334931361
D-R	48 VDC	334931365
D-R	110 VDC	334931360
D-R	220 VDC	334931366

For more types check your local sales office

Contact specifications

Contact material	Ag
Number & configuration	3 C/O
Rated continuous current	10 A
Breaking capacity AC 1	10 A / 230 V
Breaking capacity DC1	1 A / 110 V
Max. make current	16 A
Max. switching voltage	350 VDC
Min. switching voltage	12 V
Min. switched current	10 mA (Au, 1 µV, 1 µA)
Peak inrush current	200 A (withstand ≥10 x 200 A @ 10 ms, 1 min)

Coil specifications

Nominal voltage (U_n DC)	12, 24, 48, 72, 110, 125, 220, 250 VDC
Power consumption	25 W (during pull-in), 1 W (continuous)
Operating range	0.8...1.1 U_n

Technical data

Mechanical life cycles DC	50 x 10^6
Dielectric strength, coil-contact	2500 VAC
Dielectric strength contacts	4000 VAC
Isolation class	C 380
Pull-in time DC	≤ 7 ms
Release time DC	10 ms
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	125 g
Dimensions	40 x 40 x 53 mm
Protection category	IP40

Options — See page 14.

Remarks — Other voltages on request.

SERVING SAFETY

D-RB

High DC breaking capacity, fast switching

10 A, 3 C/O

Heavy duty applications, switching of AC & DC voltages, resistive and inductive loads.

- Plug-in
- 3 C/O contacts
- Flash barriers
- Cadmium free contacts
- 'Smitt-style' pinning with integrated retaining silver plated clip
- Magnetic arc blow-out (option B, standard)
- Fast switching <7 ms (for DC only) (option R, standard)

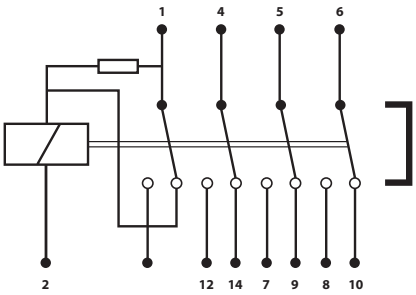
Standards

EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

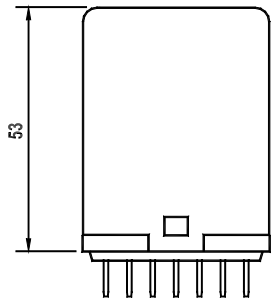
Pin arrangement

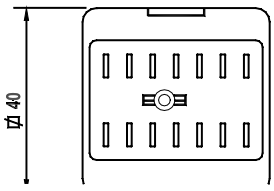
Smitt-style

Connection diagram



Dimensions





Contact specifications

Contact material	Ag
Number & configuration	3 C/O
Rated continuous current	10 A
Breaking capacity AC 1	10 A / 230 V
Breaking capacity DC1	7 A / 110 V
Max. make current	16 A
Max. switching voltage	350 VDC
Min. switching voltage	12 V
Min. switched current	10 mA (Au, 1 µV, 1 µA)
Peak inrush current	200 A (withstand ≥10 x 200 A @ 10 ms, 1 min)

Coil specifications

Nominal voltage (U_n DC)	12, 24, 48, 72, 110, 125, 220, 250 VDC
Power consumption	25 W (during pull-in), 1 W (continuous)
Operating range	0.8...1.1 U_n

Technical data

Mechanical life cycles DC	10 x 10^6
Dielectric strength, coil-contact	2500 VAC
Dielectric strength contacts	4000 VAC
Isolation class	C 380
Pull-in time DC	≤ 7 ms
Release time DC	10 ms
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	140 g
Dimensions	40 x 40 x 53 mm
Protection category	IP40

Options — See page 14.

Remarks — Other voltages on request.

Most common types

D-RB	24 VDC	334931370
D-RB	48 VDC	334931353
D-RB	110 VDC	334931350
D-RB	220 VDC	334931351

For more types check your local sales office

D-BV

Wide coil range high DC breaking capacity
10 A, 4 C/O

Heavy duty applications, switching of AC & DC voltages, resistive and inductive loads.

- Plug-in
- 4 C/O contacts
- DC (with back EMF diode) and AC coil
- Flash barriers
- LED indicator (option L standard)
- Cadmium free contacts
- 'Smitt-style' pinning with integrated retaining silver plated clip
- Magnetic arc blow-out (option B, standard)
- Wider range (option V, standard)

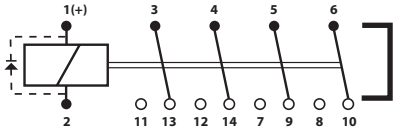
Standards

EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement

Smitt-style

Connection diagram



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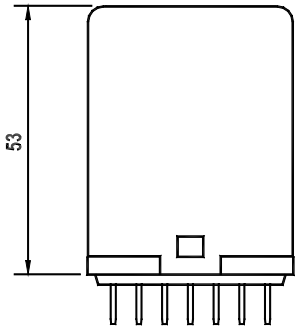
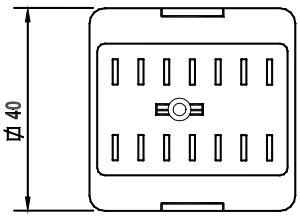




Contact specifications

Contact material	Ag
Number & configuration	4 C/O
Rated continuous current	10 A
Breaking capacity AC 1	10 A / 230 V
Breaking capacity DC1	7 A / 110 V
Max. make current	16 A
Max. switching voltage	350 VDC / 440 VAC
Min. switching voltage	12 V
Min. switched current	10 mA (Au, 1 µV, 1 µA)
Peak inrush current	200 A (withstand ≥10 x 200 A @ 10 ms, 1 min)

Coil specifications

Nominal voltage (U_n DC)	12, 24, 48, 72, 110, 125, 220, 250 VDC
Nominal voltage (U_n AC)	12, 24, 48, 72, 100, 120, 230, 350, 380 VAC
Power consumption (AC/DC)	2.5 VA / 2.2 W
Operating range	0.7...1.25 U_n

Technical data

Mechanical life cycles (AC/DC)	10 x 10^6 / 50 x 10^6
Dielectric strength, coil-contact	2500 VAC
Dielectric strength contacts	4000 VAC
Isolation class	C 380
Pull-in time DC/AC	≤ 20 / 5 ms
Release time DC/AC	18 / 5 ms
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	140 g
Dimensions	40 x 40 x 53 mm
Protection category	IP40

Options See page 14.

Remarks: Standard AC coil is 50 Hz, 60 Hz coil on request. Other voltages on request.

Most common types

D-BV	24 VDC	330219800
D-BV	48 VDC	330219799
D-BV	110 VDC	330219798
D-BV	220 VDC	330219797

For more types check your local sales office

SERVING SAFETY

D-BW

High DC breaking capacity, forced guided contacts 10 A, 4 contacts

Heavy duty safety applications, switching of AC & DC voltages, resistive and inductive loads.

- Plug-in
- Various contact configurations
- DC (with back EMF diode)
- Flash barriers
- LED indicator (option L standard)
- Cadmium free contacts
- 'Smitt-style' pinning with integrated retaining silver plated clip
- Magnetic arc blow-out (option B, standard)
- Weld-no-transfer contacts (option W, standard)
- According EN 50205, application type A

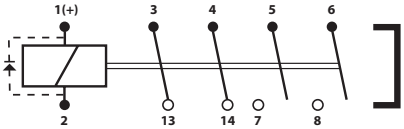
Standards

EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement

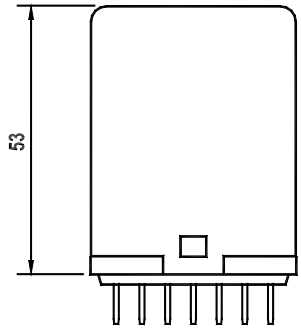
Smitt-style

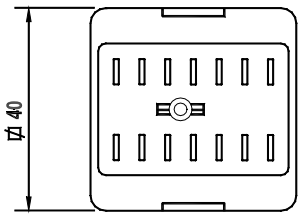
Connection diagram



D-BW022

Dimensions





Contact specifications

Contact material	Ag
Number & configuration	4 contacts
Rated continuous current	10 A
Breaking capacity AC 1	10 A / 230 V
Breaking capacity DC1	7 A / 110 V
Max. make current	16 A
Max. switching voltage	350 VDC / 440 VAC
Min. switching voltage	12 V
Min. switched current	10 mA (Au, 1 µV, 1 µA)
Peak inrush current	200 A (withstand ≥10 x 200 A @ 10 ms, 1 min)

Coil specifications

Nominal voltage (U_n DC)	12, 24, 48, 72, 110, 125, 220, 250 VDC
Power consumption (AC/DC)	2 VA / 2 W
Operating range	0.8...1.1 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles DC	10 x 10^6
Dielectric strength, coil-contact	2500 VAC
Dielectric strength contacts	4000 VAC
Isolation class	C 380
Pull-in time DC	< 25 ms
Release time DC	55 ms
Ambient temperature	-25 °C...+55 °C (option V)
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	140 g
Dimensions	40 x 40 x 53 mm
Protection category	IP40

Options See page 14.

Remarks: Other voltages on request.

Most common types

D-BW013	110 VDC	330219832
D-BW013	220 VDC	330219835
D-BW022	110 VDC	330219833
D-BW022	220 VDC	330219836
D-BW031	110 VDC	330219834
D-BW031	220 VDC	330210837

For more types check your local sales office

D-YB

High DC breaking capacity
10 A, 2 DM/DB (8 A, DC1)

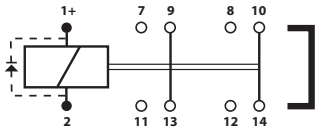
2 contacts in series. Heavy duty applications, switching of AC & DC voltages, resistive and inductive loads. Very high DC breaking capacity, long contact life.

- Plug-in
- 2 double make / double break contacts (option Y, standard)
- DC (with back EMF diode) and AC coil
- Flash barriers
- LED indicator (option L, standard)
- Cadmium free contacts
- 'Smitt-style' pinning with integrated retaining silver plated clip
- Magnetic arc blow-out (option B, standard)

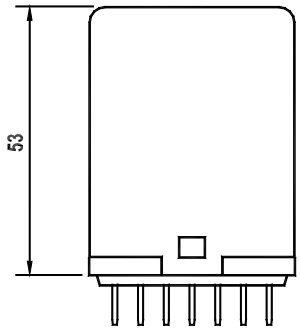
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

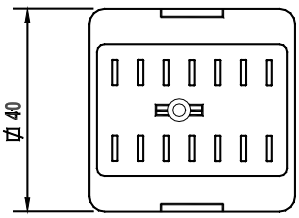
Pin arrangement
Smitt-style

Connection diagram



Dimensions





Contact specifications

Contact material	Ag
Number & configuration	2 C/O, DM-DB
Rated continuous current	10 A
Breaking capacity AC 1	10 A / 230 V
Breaking capacity DC1	8 A / 110 V
Max. make current	16 A
Max. switching voltage	350 VDC
Min. switching voltage	12 V
Min. switched current	10 mA (Au, 1 µV, 1 µA)
Peak inrush current	200 A (withstand ≥10 x 200 A @ 10 ms, 1 min)

Coil specifications

Nominal voltage (U_n DC)	12, 24, 48, 72, 110, 125, 220, 250 VDC
Nominal voltage (U_n AC)	12, 24, 48, 72, 100, 120, 230, 350, 380 VAC
Power consumption (AC/DC)	2 VA / 2 W
Operating range	0.8...1.1 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles (AC/DC)	10×10^6 / 50×10^6
Dielectric strength, coil-contact	2500 VAC
Dielectric strength contacts	4000 VAC
Isolation class	C 380
Pull-in time DC/AC	≤ 20 / 5 ms
Release time DC/AC	18 / 5 ms
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	140 g
Dimensions	40 x 40 x 53 mm
Protection category	IP40

Options See page 14.

Remarks: Standard AC coil is 50 Hz, 60 Hz coil on request. Other voltages on request.

Most common types

D-YB	24 VDC	330219873
D-YB	48 VDC	330219870
D-YB	110 VDC	330219874
D-YB	230 VAC 50 Hz	330219872

For more types check your local sales office

SERVING SAFETY

D-BX5

Very high breaking capacity
10 A, 2 N/O + 2 N/C (10 A, DC 1)

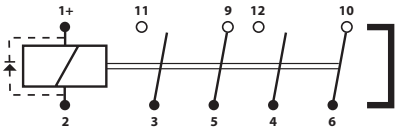
Heavy duty applications, switching of AC & DC voltages, resistive and inductive loads.

- Plug-in
- 2 N/O + 2 N/C contacts
- DC (with back EMF diode) and AC coil
- Flash barriers
- LED indicator
- Cadmium free contacts
- Magnetic arc blow-out (option B, standard)
- Contact gap 2 mm (option X5, standard)

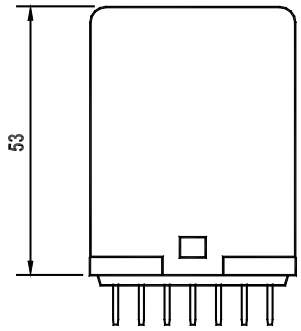
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

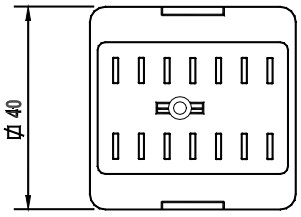
Pin arrangement
Smitt-style

Connection diagram



Dimensions





Contact specifications

Contact material	Ag
Number & configuration	2 N/O + 2 N/C contacts
Rated continuous current	10 A
Breaking capacity AC 1	10 A / 230 V
Breaking capacity DC1	10 A / 110 V
Max. make current	16 A
Max. switching voltage	350 VDC
Min. switching voltage	12 V
Min. switched current	10 mA (Au, 1 µV, 1 µA)
Peak inrush current	200 A (withstand ≥10 x 200 A @ 10 ms, 1 min)

Coil specifications

Nominal voltage (U_n DC)	12, 24, 48, 72, 110, 125, 220, 250 VDC
Nominal voltage (U_n AC)	12, 24, 48, 72, 100, 120, 230, 350, 380 VAC
Power consumption (AC/DC)	2 VA / 2 W
Operating range	0.8...1.1 U_n

Technical data

Mechanical life cycles (AC/DC)	10 x 10^6 / 30 x 10^6
Dielectric strength, coil-contact	2500 VAC
Dielectric strength contacts	4000 VAC
Isolation class	C 380
Pull-in time DC/AC	≤ 20 / 5 ms
Release time DC/AC	18 / 5 ms
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	140 g
Dimensions	40 x 40 x 53 mm
Protection category	IP40

Options See page 14.

Remarks: Standard AC coil is 50 Hz, 60 Hz coil on request. Other voltages on request.

Most common type

D-BX5	24 VDC	330215960
D-BX5	48 VDC	-
D-BX5	110 VDC	-
D-BX5	220 VDC	-
D-BX5	250 VDC	-

For more types check your local sales office

D-BYX5

Very high DC breaking capacity (12 A, DC1)
10 A, 2 DM/DB

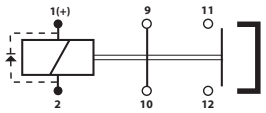
2 contacts in series. Heavy duty applications, switching of AC & DC voltages, resistive and inductive loads.

- Plug-in
- 1 double make / double break contact (option Y, standard)
- DC (with back EMF diode) and AC coil
- Flash barriers
- LED indicator
- Cadmium free contacts
- Magnetic arc blow-out (option B, standard)
- Contact gap 4 mm (option X5, standard)

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement
Smitt-style

Connection diagram



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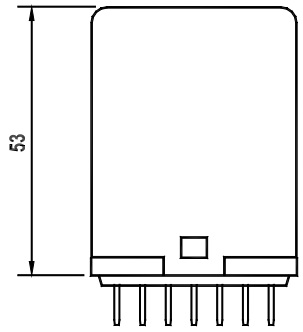
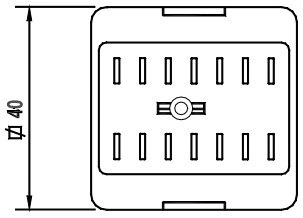




Contact specifications

Contact material	Ag
Number & configuration	1 double make / double break contact
Rated continuous current	10 A
Breaking capacity AC 1	10 A / 230 V
Breaking capacity DC1	12 A / 110 V
Max. make current	16 A
Max. switching voltage	350 VDC / 440 VAC
Min. switching voltage	12 V
Min. switched current	10 mA (Au, 1 µV, 1 µA)
Peak inrush current	200 A (withstand ≥10 x 200 A @ 10 ms, 1 min)

Coil specifications

Nominal voltage (Un DC)	12, 24, 48, 72, 110, 125, 220, 250 VDC
Nominal voltage (Un AC)	12, 24, 48, 72, 100, 120, 230, 350, 380 VAC
Power consumption (AC/DC)	2 VA / 2 W
Operating range	0.8...1.1 Un (0.7...1.25 Un option V)

Technical data

Mechanical life cycles (AC/DC)	10 x 10^6 / 30 x 10^6
Dielectric strength, coil-contact	2500 VAC
Dielectric strength contacts	4000 VAC
Isolation class	C 380
Pull-in time DC/AC	≤ 20 / 5 ms
Release time DC/AC	18 / 5 ms
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	140 g
Dimensions	40 x 40 x 53 mm
Protection category	IP40

Options See page 14.

Remarks: Standard AC coil is 50 Hz, 60 Hz coil on request. Other voltages on request.

Most common types

D-YBX5	24 VDC	-
D-YBX5	48 VDC	-
D-YBX5	110 VDC	-
D-YBX5	220 VDC	330215962
D-YBX5	24 VAC	-

For more types check your local sales office

SERVING SAFETY

D-E

Low current switching
4 C/O

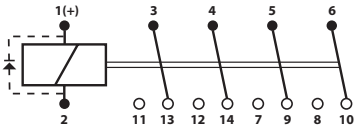
Suitable for low current dry circuit and mixed load switching.
Can be used in corrosive environments.

- Plug-in
- 4 C/O contacts
- DC (with back EMF diode) and AC coil
- LED indicator (option L, standard)
- Cadmium free contacts
- Gold plated contacts (option E, standard)

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement
Smitt-style

Connection diagram



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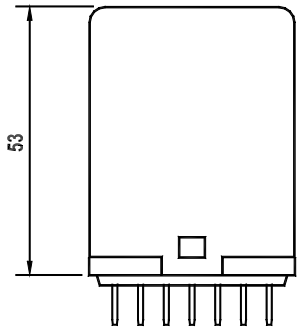
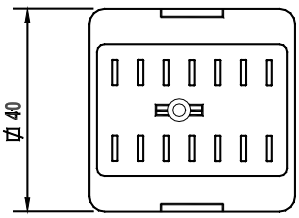




Contact specifications

Contact material	Ag, 10 µm gold plated
Number & configuration	4 C/O
Max. contact load	60 V, 400 mA, max 1.6 W
Max. switching voltage	350 VDC / 440 VAC
Min. switched voltage/current	1 µV, 1 µA
Peak inrush current	200 A (withstand ≥10 x 200 A @ 10 ms, 1 min)

Coil specifications

Nominal voltage (U_n DC)	12, 24, 48, 72, 110, 125, 220, 250 VDC
Nominal voltage (U_n AC)	12, 24, 48, 72, 100, 120, 230, 350, 380 VAC
Power consumption (AC/DC)	2 VA / 2 W
Operating range	0.8...1.1 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles (AC/DC)	10×10^6 / 50×10^6
Dielectric strength, coil-contact	2500 VAC
Dielectric strength contacts	4000 VAC
Isolation class	C 380
Pull-in time DC/AC	≤ 20 / 11 ms
Release time DC/AC	18 / 8 ms
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	125 g
Dimensions	40 x 40 x 53 mm
Protection category	IP40

Options See page 14.

Remarks: Standard AC coil is 50 Hz, 60 Hz coil on request.
Other voltages on request.

Most common types

D-E	24 VDC	330216002
D-E	48 VDC	330216003
D-E	110 VDC	330216006
D-E	48 VAC 50 Hz	330216052
D-E	230 VAC 50 Hz	330216057

For more types check your local sales office

DGG

Very wide coil range, 0.4 U_{nom} (DC)
10 A, 2 C/O

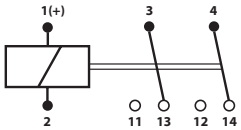
Heavy duty applications, switching of AC & DC voltages, resistive and inductive loads. Very wide coil voltage range.

- Plug-in
- 2 C/O contacts
- DC and AC coil
- Cadmium free contacts
- 'Smitt-style' pinning with integrated retaining silver plated clip
- Extreme sensitive coil (pull-in voltage 0.4 x U_{nom})

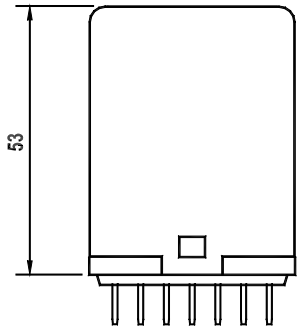
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

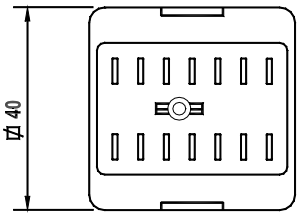
Pin arrangement
Smitt-style

Connection diagram



Dimensions





Contact specifications

Contact material	Ag
Number & configuration	2 C/O
Rated continuous current	10 A
Max. make current	16 A
Max. switching voltage	350 VDC
Min. switching voltage	12 V
Min. switched current	10 mA (Au, 1 µV, 1 µA)
Peak inrush current	200 A (withstand ≥10 x 200 A @ 10 ms, 1 min)

Coil specifications

Nominal voltage (U_n DC)	12, 24, 48, 72, 110, 125, 220, 250 VDC
Nominal voltage (U_n AC)	12, 24, 48, 72, 100, 120, 230, 350, 380 VAC
Power consumption (AC/DC)	2 VA / 2 W
Operating range	0.4...1.1 U_n

Technical data

Mechanical life cycles (AC/DC)	10 x 10^6 / 50 x 10^6
Dielectric strength, coil-contact	2500 VAC
Dielectric strength contacts	4000 VAC
Isolation class	C 380
Pull-in time DC/AC	≤ 20 / 10 ms
Release time DC/AC	18 / 5 ms
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	125 g
Dimensions	40 x 40 x 53 mm
Protection category	IP40

Options See page 14.

Remarks: Standard AC coil is 50 Hz, 60 Hz coil on request. Other voltages on request.

Most common types

DGG	24 VDC	330217002
DGG	48 VDC	330217004
DGG	110 VDC	330217007
DGG	24 VAC 50 Hz	330217052
DGG	220 VAC 50 Hz	330217057

For more types check your local sales office

SERVING SAFETY

D-YBMZD

Windpower & solar solutions
10 A, 2 DM/DB

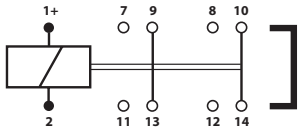
2 contacts in series with $AgSnO_2$ contacts, highly resistive against welding.
Heavy duty applications, switching of high DC voltages, resistive and inductive loads.

- Plug-in
- 2 double make / double break contacts (option Y, standard)
- DC (with back EMF diode) and AC coil
- Flash barriers
- $AgSnO_2$ contacts (option M, standard)
- Cadmium free contacts
- Magnetic arc blow-out (option B, standard)

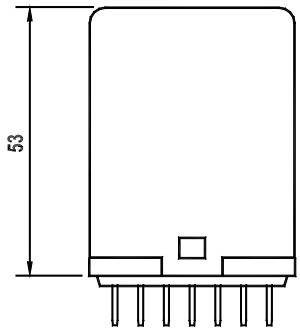
(Picture shows D-YBMZD incl. LED option)

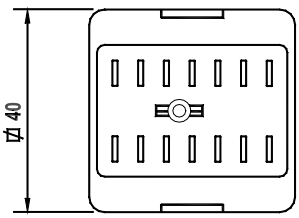
Pin arrangement
Smitt-style

Connection diagram



Dimensions





Contact specifications

Contact material	$AgSnO_2$
Number & configuration	2 double make / double break contacts
Rated continuous current	10 A
Breaking capacity AC1	10 A / 230 V
Breaking capacity DC1	8 A / 110 V
Max. make current	16 A
Max. switching voltage	350 VDC / 440 VAC
Min. switching voltage	12 V
Min. switched current	10 mA (Au, 1 µV, 1 µA)

Coil specifications

Nominal voltage (U_n DC)	12, 24, 48, 72, 110, 125, 220, 250 VDC
Nominal voltage (U_n AC)	12, 24, 48, 72, 100, 120, 230, 350, 380 VAC
Power consumption (AC/DC)	2 VA / 2 W
Operating range	0.8...1.1 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles (AC/DC)	10×10^6 / 50×10^6
Dielectric strength, coil-contact	2500 VAC
Dielectric strength contacts	4000 VAC
Isolation class	C 380
Pull-in time DC/AC	≤ 20 / 10 ms
Release time DC/AC	18 / 5 ms
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	125 g
Dimensions	40 x 40 x 53 mm
Protection category	IP40

Options	See page 14.
Remarks	Standard AC coil is 50 Hz, 60 Hz coil on request. Other voltages on request.

Most common types

D-YBMZD	12 VDC	-
D-YBMZD	24 VDC	-
D-YBMZD	48 VDC	-
D-YBMZD	110 VDC	-
D-YBMZD	220 VDC	-

For more types check your local sales office

D8-UL

Heavy duty
10 A, 8 C/O

(Picture D8-U204 railway version)

Heavy duty applications, switching of AC & DC voltages, resistive and inductive loads.

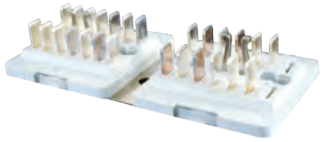
- Plug-in
- 8 C/O contacts
- AC/DC coil voltage (rectifier bridge, option U, standard)
- Coil is suitable for AC/DC voltage
- LED indicator (option L, standard)
- Cadmium free contacts

Standards

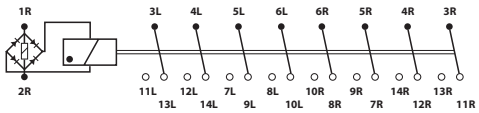
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement

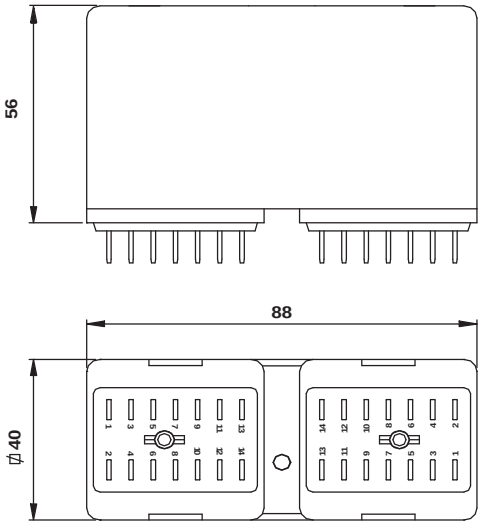
Smitt-style



Connection diagram



Dimensions



Contact specifications

Contact material	Ag
Number & configuration	8 C/O
Rated continuous current	10 A
Breaking capacity AC1	10 A / 230 V
Breaking capacity DC1	1 A / 110 V
Max. make current	16 A
Max. switching voltage	350 VDC / 440 VAC
Min. switching voltage	12 V
Min. switched current	10 mA (Au, 1 µV, 1 µA)
Peak inrush current	200 A (withstand ≥ 10 x 200 A @ 10 ms, 1 m)

Coil specifications

Nominal voltage (U_n AC/DC)	12, 24, 48, 72, 110, 125, 220, 250 VAC / DC
Power consumption (DC/AC)	2.5-3.5 W / VA
Operating range	0.8...1.1 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles	10 x 10^6
Dielectric strength, coil-contact	2500 VAC
Dielectric strength contacts	4000 VAC
Isolation class	C 380
Pull-in time DC/AC	≤ 17 / 18 ms
Release time DC/AC	12 / 12 ms
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	330 g
Dimensions	40 x 88 x 53 mm
Protection category	IP40

Options — See page 14.

Remarks — Other voltages on request.

Most common types

D8-UL	24-28 VAC/DC	334980502
D8-UL	42-48 VAC/DC	334980503
D8-UL	60-70 VAC/DC	334980504
D8-UL	100-110 VAC/DC	334980506
D8-UL	220-230 VAC/DC	334980507
D8-UL	250 VAC/DC	334980512

For more types check your local sales office

SERVING SAFETY

D8-ULB

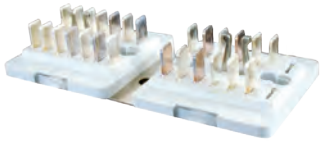
High DC breaking capacity (7 A, DC1)
10 A, 8 C/O

Heavy duty applications, switching of AC & DC voltages, resistive and inductive loads.

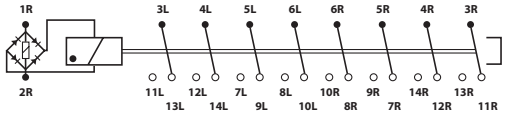
- Plug-in
- 8 C/O contacts
- AC/DC coil voltage (rectifier bridge, option U, standard)
- Coil is suitable for AC/DC voltage
- LED indicator (option L, standard)
- Cadmium free contacts
- Magnetic arc blowout (option B, standard)

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

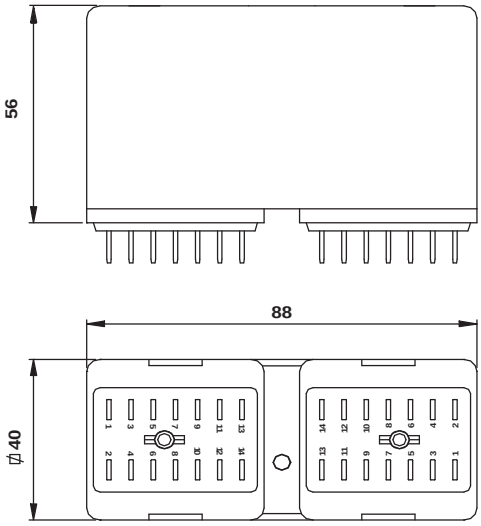
Pin arrangement
Smitt-style



Connection diagram



Dimensions



Contact specifications

Contact material	Ag
Number & configuration	8 C/O
Rated continuous current	10 A
Breaking capacity AC1	10 A / 230 V
Breaking capacity DC1	7 A / 110 V
Max. make current	16 A
Max. switching voltage	350 VDC / 440 VAC
Min. switching voltage	12 V
Min. switched current	10 mA (Au, 1 µV, 1 µA)
Peak inrush current	200 A (withstand ≥ 10 x 200 A @ 10 ms, 1 m)

Coil specifications

Nominal voltage (U_n AC/DC)	12, 24, 48, 72, 110, 125, 220, 250 VAC / DC
Power consumption (DC/AC)	2.5-3.5 W / VA
Operating range	0.8...1.1 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles	10 x 10^6
Dielectric strength, coil-contact	2500 VAC
Dielectric strength contacts	4000 VAC
Isolation class	C 380
Pull-in time DC/AC	≤ 17 / 18 ms
Release time DC/AC	12 / 12 ms
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	330 g
Dimensions	40 x 88 x 53 mm
Protection category	IP40

Options See page 14.
Remarks: Other voltages on request.

Most common types

D8-ULB	24-28 VAC/DC	-
D8-ULB	42-48 VAC/DC	334980603
D8-ULB	100-110 VAC/DC	334980609
D8-ULB	220-230 VAC/DC	334980608
D8-ULB	250 VAC/DC	-

For more types check your local sales office

D8-ULYB

High DC breaking capacity (8 A, DC1)
10 A, 8 C/O

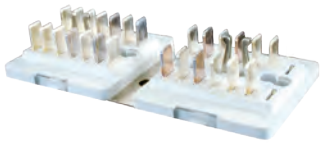
(Picture D8-U204 railway version)

Heavy duty applications, switching of AC & DC voltages, resistive and inductive loads.

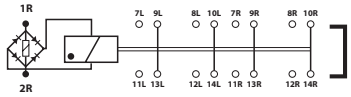
- Plug-in
- 4 C/O double make / double break contacts (option Y, standard)
- AC/DC coil voltage (rectif ier bridge, option U, standard)
- Coil is suitable for AC/DC voltage
- LED indicator (option L, standard)
- Cadmium free contacts
- Magnetic arc blowout (option B, standard)

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

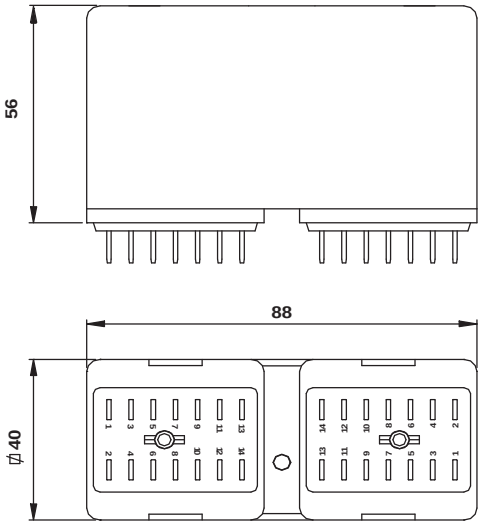
Pin arrangement
Smitt-style



Connection diagram



Dimensions



Contact specifications

Contact material	Ag
Number & configuration	4 C/O DM/DB
Rated continuous current	10 A
Breaking capacity AC1	10 A / 230 V
Breaking capacity DC1	8 A / 110 V
Max. make current	16 A
Max. switching voltage	350 VDC / 440 VAC
Min. switching voltage	12 V
Min. switched current	10 mA (Au, 1 µV, 1 µA)
Peak inrush current	200 A (withstand ≥ 10 x 200 A @ 10 ms, 1 m)

Coil specifications

Nominal voltage (U_n AC/DC)	12, 24, 48, 72, 110, 125, 220, 250 VAC / DC
Power consumption (DC/AC)	2.5-3.5 W / VA
Operating range	0.8...1.1 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles	10×10^6
Dielectric strength, coil-contact	2500 VAC
Dielectric strength contacts	4000 VAC
Isolation class	C 380
Pull-in time DC/AC	≤ 17 / 18 ms
Release time DC/AC	12 / 12 ms
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	330 g
Dimensions	40 x 88 x 53 mm
Protection category	IP40

Options See page 14.

Remarks: Other voltages on request.

Most common types

D8-ULYB	24-28 VAC/DC	-
D8-ULYB	42-48 VAC/DC	-
D8-ULYB	100-110 VAC/DC	-
D8-ULYB	220-230 VAC/DC	334980703

For more types check your local sales office

SERVING SAFETY

D8-ULBX5

High DC breaking capacity (10 A, DC1)
10 A, 4 N/O + 4 N/C

(Picture D8-U204 railway version)

Heavy duty applications, switching of AC & DC voltages, resistive and inductive loads.

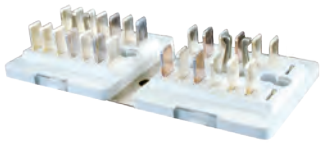
- Plug-in
- 4 N/O + 4 N/C contacts
- AC/DC coil voltage (rectif ier bridge, option U, standard)
- Coil is suitable for AC/DC voltage
- LED indicator
- Cadmium free contacts
- Magnetic arc blowout (option B, standard)
- Contact gap 4 mm (option X5, standard)

Standards

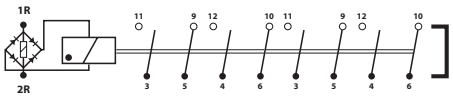
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement

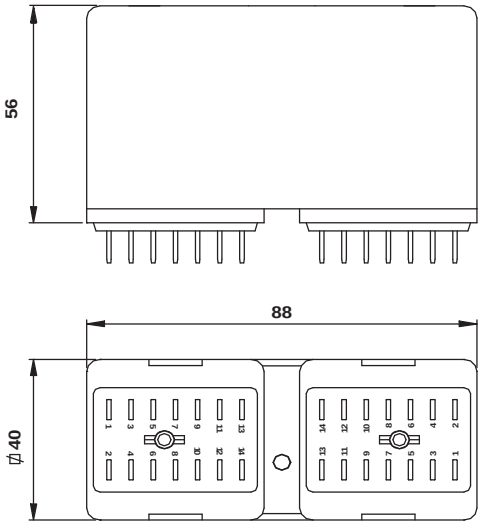
Smitt-style



Connection diagram



Dimensions



Contact specifications

Contact material	Ag
Number & configuration	4 N/O + 4 N/C
Rated continuous current	10 A
Breaking capacity AC1	10 A / 230 V
Breaking capacity DC1	10 A / 110 V
Max. make current	16 A
Max. switching voltage	350 VDC / 440 VAC
Min. switching voltage	12 V
Min. switched current	10 mA (Au, 1 µV, 1 µA)
Peak inrush current	200 A (withstand ≥ 10 x 200 A @ 10 ms, 1 m)

Coil specifications

Nominal voltage (U_n AC/DC)	12, 24, 48, 72, 110, 125, 220, 250 VAC / DC
Power consumption (DC/AC)	2.5-3.5 W / VA
Operating range	0.8...1.1 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles	10×10^6
Dielectric strength, coil-contact	2500 VAC
Dielectric strength contacts	4000 VAC
Isolation class	C 380
Pull-in time DC/AC	≤ 17 / 18 ms
Release time DC/AC	12 / 12 ms
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	330 g
Dimensions	40 x 88 x 53 mm
Protection category	IP40

Options See page 14.

Most common types

D8-ULBX5	24-28 VAC/DC	-
D8-ULBX5	42-48 VAC/DC	-
D8-ULBX5	100-110 VAC/DC	-
D8-ULBX5	220-230 VAC/DC	-

For more types check your local sales office

D8-ULYBX5

High DC breaking capacity (12 A, DC1)
10 A, 2 DM/DB

(Picture D8-U204 railway version)

Heavy duty applications, switching of AC & DC voltages, resistive and inductive loads.

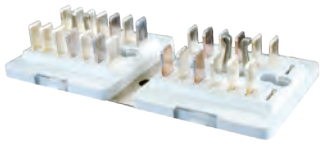
- Plug-in
- 2 double make / double break contacts (option Y)
- AC/DC coil voltage (rectif ier bridge, option U, standard)
- Coil is suitable for AC/DC voltage
- LED indicator
- Cadmium free contacts
- Magnetic arc blowout (option B, standard)
- Contact gap 4 mm (option X5, standard)

Standards

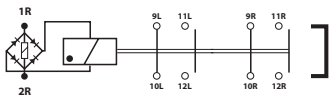
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement

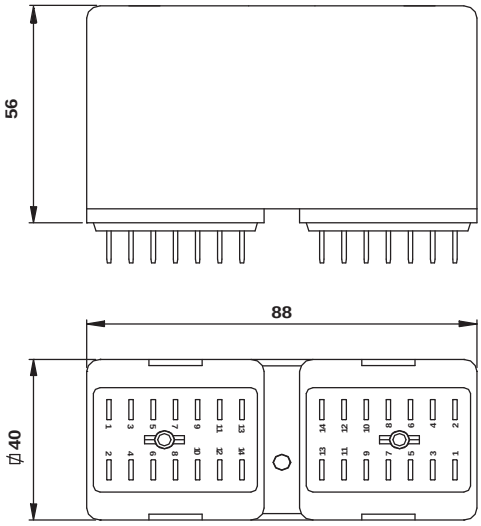
Smitt-style



Connection diagram



Dimensions



Contact specifications

Contact material	Ag
Number & configuration	2 DM/DB
Rated continuous current	10 A
Breaking capacity AC1	12 A / 230 V
Breaking capacity DC1	12 A / 110 V
Max. make current	16 A
Max. switching voltage	350 VDC / 440 VAC
Min. switching voltage	12 V
Min. switched current	10 mA (Au, 1 µV, 1 µA)
Peak inrush current	200 A (withstand ≥ 10 x 200 A @ 10 ms, 1 m)

Coil specifications

Nominal voltage (U_n AC/DC)	12, 24, 48, 72, 110, 125, 220, 250 VAC / DC
Power consumption (DC/AC)	2.5-3.5 W / VA
Operating range	0.8...1.1 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles	10 x 10^6
Dielectric strength, coil-contact	2500 VAC
Dielectric strength contacts	4000 VAC
Isolation class	C 380
Pull-in time DC/AC	≤ 17 / 18 ms
Release time DC/AC	12 / 12 ms
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	330 g
Dimensions	40 x 88 x 53 mm
Protection category	IP40

Options See page 14.

Remarks: Other voltages on request.

Most common types

D8-ULYBX5	24-28 VAC/DC	-
D8-ULYBX5	42-48 VAC/DC	-
D8-ULYBX5	100-110 VAC/DC	-
D8-ULYBX5	220-230 VAC/DC	-

For more types check your local sales office

SERVING SAFETY

KDN

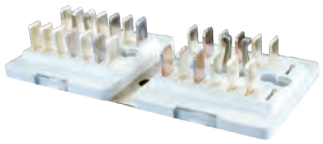
Heavy duty latching, mechanical
10 A, 8 C/O

Heavy duty applications, switching of AC & DC voltages, resistive and inductive loads.

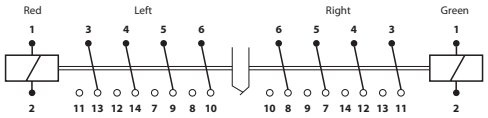
- Plug-in
- 8 C/O contacts
- DC and AC coil
- Cadmium free contacts
- Position indicator (red/green)
- Continuous coil energization permitted

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

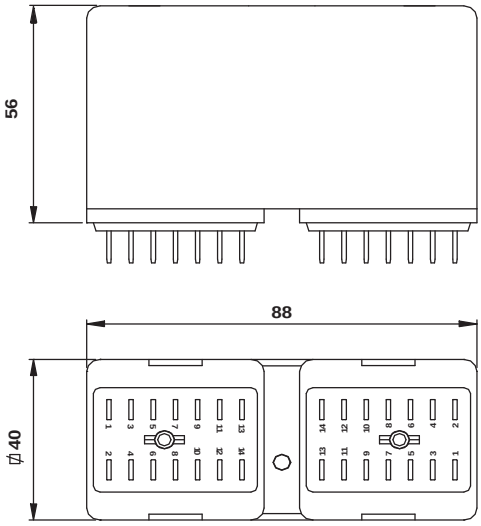
Pin arrangement
Smitt-style



Connection diagram



Dimensions



Contact specifications

Contact material	Ag
Number & configuration	8 C/O
Rated continuous current	10 A
Breaking capacity AC1	10 A / 230 V
Breaking capacity DC1	1 A / 110 V
Max. make current	16 A
Max. switching voltage	350 VDC / 440 VAC
Min. switching voltage	12 V
Min. switched current	10 mA (Au, 1 µV, 1 µA)

Coil specifications

Nominal voltage (U_n DC)	12, 24, 48, 72, 110, 125, 220, 250 VDC
Nominal voltage (U_n AC)	12, 24, 48, 72, 100, 120, 230, 350, 380 VAC
Power consumption (AC/DC)	3.2 VA / 3.5 W
Operating range	0.8...1.1 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles	10×10^6
Dielectric strength, coil-contact	2500 VAC
Dielectric strength contacts	4000 VAC
Isolation class	C 380
Minimum impuls time	50 ms
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	320 g
Dimensions	40 x 88 x 56 mm
Protection category	IP40

Options See page 14.

Remarks: Standard AC coil is 50 Hz, 60 Hz coil on request.
Other voltages on request.
≥ 50 ms energization needed to set or reset the relay.

Standard types

KDN	24 VDC	331610600
KDN	48 VDC	331610700
KDN	110 VDC	331610900
KDN	24 VAC 50 Hz	331610100
KDN	220 VAC 50 Hz	331610500

For more types check your local sales office

KDN-B

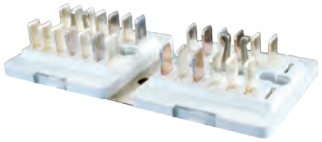
Heavy duty latching, mechanical
10 A, 8 C/O

Heavy duty applications, switching of AC & DC voltages, resistive and inductive loads.

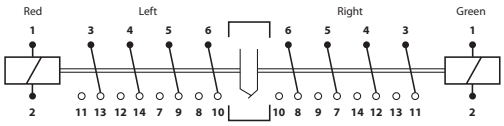
- Plug-in
- 8 C/O contacts
- DC and AC coil
- Cadmium free contacts
- Position indicator (red/green)
- Continuous coil energization permitted
- Magnetic arc blowout (option B, standard)

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

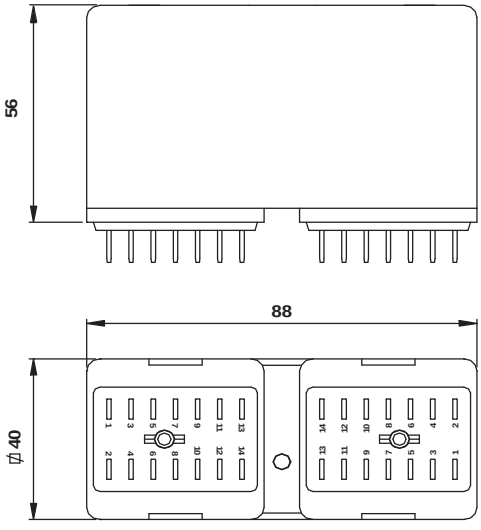
Pin arrangement
Smitt-style



Connection diagram



Dimensions



Contact specifications

Contact material	Ag
Number & configuration	8 C/O
Rated continuous current	10 A
Breaking capacity AC1	10 A / 230 V
Breaking capacity DC1	7 A / 110 V
Max. make current	16 A
Max. switching voltage	350 VDC / 440 VAC
Min. switching voltage	12 V
Min. switched current	10 mA (Au, 1 µV, 1 µA)

Coil specifications

Nominal voltage (U_n DC)	12, 24, 48, 72, 110, 125, 220, 250 VDC
Nominal voltage (U_n AC)	12, 24, 48, 72, 100, 120, 230, 350, 380 VAC
Power consumption (AC/DC)	3.2 W / 3.5 VA
Operating range	0.8...1.1 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles	10 x 10^6
Dielectric strength, coil-contact	2500 VAC
Dielectric strength contacts	4000 VAC
Isolation class	C 380
Minimum impuls time	50 ms
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	320 g
Dimensions	40 x 88 x 56 mm
Protection category	IP40

Options See page 14.

Remarks
Standard AC coil is 50 Hz, 60 Hz coil on request.
Other voltages on request.
≥ 50 ms energization needed to set or reset the relay

Most common types

KDN-B	24 VDC	331611002
KDN-B	48 VDC	-
KDN-B	110 VDC	331611004
KDN-B	220 VDC	331611003

For more types check your local sales office

SERVING SAFETY

BD

Heavy duty latching, magnetic
10 A, 3 C/O + 1 N/C

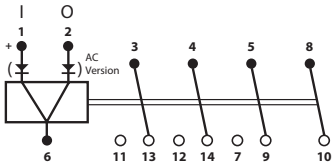
Heavy duty applications, switching of AC & DC voltages, resistive and inductive loads.

- Plug-in
- 3 C/O + 1 N/C contacts
- DC and AC coil
- Cadmium free contacts
- Puls activated resolving in less heat dissipation and energy consumption
- Continuous coil energization permitted

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement
Smitt-style

Connection diagram



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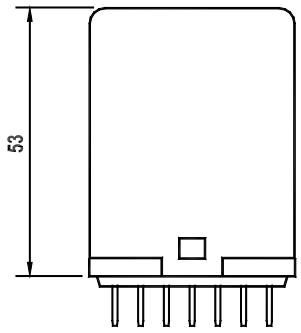
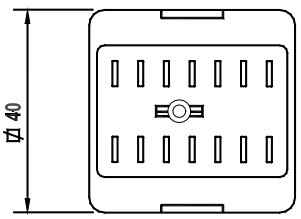




Contact specifications

Contact material	Ag
Number & configuration	3 C/O + 1 N/C
Rated continuous current	10 A
Breaking capacity AC1	10 A / 230 V
Breaking capacity DC1	1 A / 110 V
Max. make current	16 A
Max. switching voltage	250 VDC / 440 VAC
Min. switching voltage	12 V
Min. switched current	10 mA (Au, 1 µV, 1 µA)

Coil specifications

Nominal voltage (U_n DC)	12, 24, 48, 72, 110, 125, 220, 250 VDC
Nominal voltage (U_n AC)	12, 24, 48, 72, 100, 120, 230, 350, 380 VAC
Power consumption (AC/DC)	1.7 W / 4 VA
Operating range	0.85...1.1 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles	10×10^6
Dielectric strength, coil-contact	2000 VAC
Dielectric strength contacts	4000 VAC
Isolation class	C 380
Minimum impuls time	≤ 25 / 50 ms
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	135 g
Dimensions	40 x 40 x 53 mm
Protection category	IP40

Options See page 14.

Remarks
Other voltages on request.
≥ 25 ms energization needed to set or reset the relay
Coil can be permanently energised

Standard types

BD 24 VDC
BD 48 VDC
BD 110 VDC
BD 24 VAC
BD 220 - 240 VAC

For more types check your local sales office

BD-B

Heavy duty latching, magnetic
10 A, 3 C/O + 1 N/C

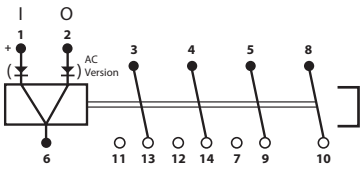
Heavy duty applications, switching of AC & DC voltages, resistive and inductive loads.

- Plug-in
- 3 C/O + 1 N/C contacts
- DC and AC coil
- Cadmium free contacts
- Puls activated resolving in less heat dissipation and energy consumption
- Continuous coil energization permitted
- Magnetic arc blowout (option B, standard)

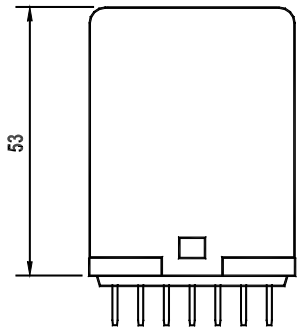
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

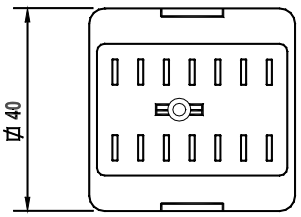
Pin arrangement
Smitt-style

Connection diagram



Dimensions





Contact specifications

Contact material	Ag
Number & configuration	3 C/O + 1 N/C
Rated continuous current	10 A
Breaking capacity AC1	10 A / 230 V
Breaking capacity DC1	7 A / 110 V
Max. make current	16 A
Max. switching voltage	250 VDC / 440 VAC
Min. switching voltage	12 V
Min. switched current	10 mA (Au, 1 µV, 1 µA)

Coil specifications

Nominal voltage (U_n DC)	12, 24, 48, 72, 110, 125, 220, 250 VDC
Nominal voltage (U_n AC)	12, 24, 48, 72, 100, 120, 230, 350, 380 VAC
Power consumption (AC/DC)	1.7 W / 4 VA
Operating range	0.85...1.1 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles	10×10^6
Dielectric strength, coil-contact	2000 VAC
Dielectric strength contacts	4000 VAC
Isolation class	C 380
Minimum impuls time	≤ 25 / 50 ms
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	175 g
Dimensions	40 x 40 x 53 mm
Protection category	IP40

Options See page 14.

Remarks: Other voltages on request.
≥ 25 ms energization needed to set or reset the relay.
Coil can be permanently energised.

Standard types

BD-B 24 VDC
BD-B 48 VDC
BD-B 110 VDC
BD-B 125 VDC

For more types check your local sales office

SERVING SAFETY

KCD

Latching, magnetic
6 A, 2 C/O

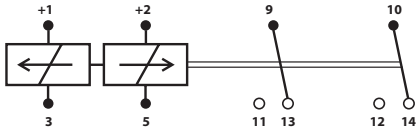
Pulse activated applications, resolving in less heat dissipation and energy consumption.

- Plug-in
- 2 C/O contacts
- DC and AC coil
- Flash barriers
- Weld no transfer contacts
- Cadmium free contacts
- 'Smitt-style' pinning with integrated retaining silver plated clip
- Contious coil energization permitted

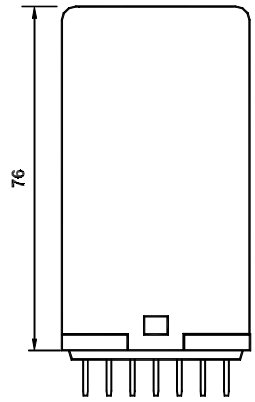
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

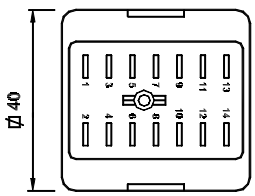
Pin arrangement
Smitt-style

Connection diagram



Dimensions





Contact specifications

Contact material	Ag + 0.2 µm Au
Number & configuration	2 C/O
Rated continuous current	6 A
Breaking capacity AC1	6 A / 230 V
Breaking capacity DC1	300 mA / 300 V
Max. make current	15 A
Max. switching voltage	350 VDC / 440 VAC
Min. switching voltage	12 V
Min. switched current	10 mA

Coil specifications

Nominal voltage (U_n DC)	12, 24, 48, 72, 110, 125 VAC/DC
Power consumption (DC/AC)	1.1 W / 0.85 VA
Operating range	0.8...1.2 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles	30 x 10^6
Dielectric strength, coil-contact	3000 VAC
Isolation class	C 250
Pick up time DC/AC	25 ms
Ambient temperature	-25 °C...+70 °C
Weight	95 g
Dimensions	40 x 40 x 76 mm
Protection category	IP40
Options	B - Magnetic arc blowout E - Gold plated contacts
Remarks	Other voltages on request. Coil voltages 110, 125 and 220 V has a built-in resistor.

Standard types

KCD-012	12 VDC	331640203
KCD-024	24 VDC	331640207
KCD-060	60 VDC	331640205
KCD-110	110 VDC	-
KCD-125	125 VDC	331640208

For more types check your local sales office

IOD

Pulse transducing
2 solid state contacts

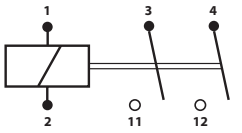
Amplify the electric output pulse from for example electronic energy / kWh meters, activated by voltage pulse.

- Plug-in
- 2 N/O, 2 N/C, 1 N/O or 1 N/C contacts
- Universal
- Solid state contacts
- LED indicator
- 'Smitt-style' pinning with integrated retaining silver plated clip

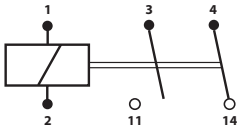
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement
Smitt-style

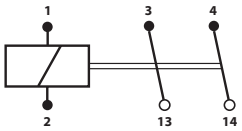
Connection diagram



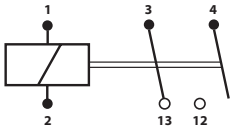
MM 2 N/O



MB 1 N/O + 1 N/C



BB 2 N/C



BM 1 N/C + 1 N/O

Contact specifications

Contact material	Solid state
Number & configuration	2 N/O, 2 N/C, 1 N/O or 1 N/C
Rated continuous current (AC1, IEC 60947)	100 mA (max 100 ms)
Max. switch current	400 mA (max 100 ms)
Max. switching voltage	< 230 V + 20% AC/DC

Coil specifications

Nominal voltage	IOD-1	110 V
	IOD-2	24 V
	IOD-3	48/60 V
	IOD-4	220 V
Operating range	VDC	0.8...1.4 U_n
	VAC	0.7...1.2 U_n

Technical data

MTBF	2.3 x 10^6 hrs
Dielectric strength, coil-contact	2000 VAC
Isolation class	Solid state, 2 kV in / out
Pull-in time DC/AC	< 5 ms
Release time DC/AC	< 1 ms
Ambient temperature	-10 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	55 g
Dimensions	40 x 40 x 53 mm
Protection category	IP40
Remarks	Switched voltage, 230 V + 20 % DC/AC. Switching frequency max 10 Hz.

Standard types

IOD - 1MM	110 - 130 VDC/AC	334104100
IOD - 1MB	110 - 130 VDC/AC	334104101
IOD - 1BM	110 - 130 VDC/AC	334104110
IOD - 1BB	110 - 130 VDC/AC	334104111

For more types check your local sales office

SERVING SAFETY

EIOD

Pulse transducing, DIN 43864
2 solid state contacts

Amplify the electric output pulse from for example electronic energy / kWh meters (electronic pulse input)

- Plug in
- 2 N/O, 2 N/C, 1 N/O or 1 N/C contacts
- Elektronic pulse input: DIN 43867
- Universal DC and AC coil
- Solid state contacts
- LED indicator
- 'Smitt-style' pinning with integrated retaining silver plated clip
- Separated supply voltage (1.2)

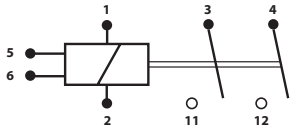
Standards

EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

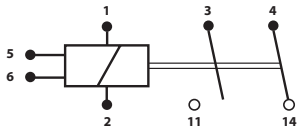
Pin arrangement

Smitt-style

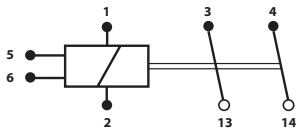
Connection diagram



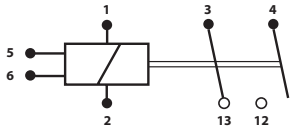
MM 2 N/O



MB 1 N/O + 1 N/C



BB 2 N/C



BM 1 N/C + 1 N/O

Contact specifications

Contact material	Solid state
Number & configuration	2 N/O, 2 N/C, 1 N/O or 1 N/C
Rated continuous current	100 mA (max 100 ms)
Max. switch current	400 mA (max 100 ms)
Max. switching voltage	< 230 V + 20% AC/DC

Coil specifications

Nominal voltage	EIOD-1	110 V
Power consumption		0.9 VA
Operating range	VDC	0.8...1.4 U_n
	VAC	0.7...1.2 U_n

Technical data

MTBF	2.3 x 10^6 hrs
Dielectric strength, coil-contact	2000 VAC
Isolation class	Solid state, 2 kV in / out
Pull-in time DC/AC	< 5 ms
Release time DC/AC	5 ms
Ambient temperature	-10 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	160 g
Dimensions	40 x 40 x 76 mm
Protection category	IP40

Remarks: Switched voltage, 230 V + 20 % DC/AC. Switching frequency max 10 Hz.

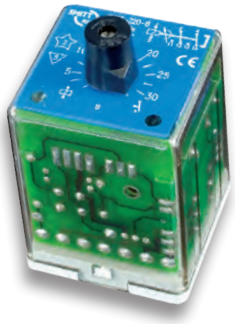
Standard types

EIOD - 1MM	110 VAC 50 Hz	334105100
EIOD - 1MB	110 VAC 50 Hz	334105101
EIOD - 1BM	110 VAC 50 Hz	334105110
EIOD - 1BB	110 VAC 50 Hz	334105111

For more types check your local sales office

TDB2

Electronic, time delay-on
6 A, 2 C/O



Delay-on time relay for demanding applications, switching of AC & DC voltages, resistive and inductive loads.

- Plug-in
- 2 C/O contacts
- DC and AC input
- Flash barriers
- 2x LED indicator (presence of supply and energizing of contacts)
- Cadmium free contacts
- 'Smitt-style' pinning with integrated retaining silver plated clip
- Adjustable with a lockable knob (optional fixed time, no knob)
- Forced contacts, weld no transfer

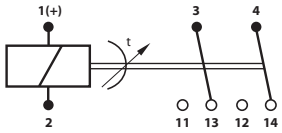
Standards

EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

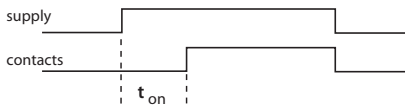
Pin arrangement

Smitt-style

Connection diagram



Time diagram



Available time ranges

0.1 - 1 s	0.3 - 3 s	0.6 - 6 s	1 - 10 s	3 - 30 s	6 - 60 s
	0.3 - 3 min	0.6 - 6 min	1 - 10 min	3 - 30 min	

Contact specifications

Contact material	Ag + 0.2 µm Au
Number & configuration	2 C/O
Rated continuous current	6 A
Breaking capacity AC1	2.6 A / 250 V
Breaking capacity DC1	300 mA / 300 V
Max. make current	15 A
Max. switching voltage AC/DC	250 V, 2.6 A / 300 V, 300 mA
Min. switching voltage	12 V
Min. switched current	10 mA
Insulation between contacts	1 kV, 50 Hz, 1 m

Coil specifications

Nominal voltage (U_n AC/DC)	24, 48, 60, 110, 125, 220, 230, 250 VAC/DC
Power consumption	0.5-2 W
Operating range	0.8...1.2 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles	30 x 10^6
Dielectric strength, coil-contact	2000 VAC
Isolation class	C 380
Pull-in time	Adjustable, fixed possible
Release time	< 40 ms
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	110 g
Dimensions	40 x 40 x 53 mm (66 mm incl. knob)
Protection category	IP40
Options	E, K, B, see page 14.
Remarks	Standard coil is 50 Hz, 60 Hz coil on request.

Standard types

TDB2-024-XX	24 VAC/DC
TDB2-048-XX	48 VAC/DC
TDB2-060-XX	60 VAC/DC
TDB2-110-XX	110 VAC/DC
TDB2-125-XX	125 VAC/DC
TDB2-220-XX	220 VAC/DC
TDB2-230-XX	230 VAC/DC

xx= time range

For more types check your local sales office

TDB4

Electronic, time delay-on
10 A, 4 C/O

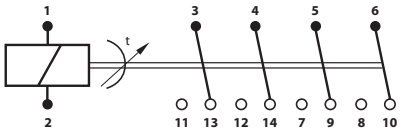
Delay-on time relay for demanding applications, switching of AC & DC voltages, resistive and inductive loads.

- Plug-in
- 4 C/O contacts
- DC and AC input
- Double LED indicator (presence of supply and energyzing of contacts)
- Cadmium free contacts
- 'Smitt-style' pinning with integrated retaining silver plated clip
- Adjustable with a lockable knob (optional with fixed time)

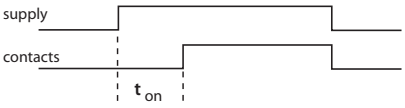
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement
Smitt-style

Connection diagram



Time diagram



Available time ranges

0.1 - 1 s	0.3 - 3 s	0.6 - 6 s	1 - 10 s	3 - 30 s	6 - 60 s
	0.3 - 3 min	0.6 - 6 min	1 - 10 min	3 - 30 min	6 - 60 min

Contact specifications

Contact material	Ag
Number & configuration	4 C/O
Rated continuous current	10 A
Breaking capacity AC1	10 A / 230 V
Breaking capacity DC1	1 A / 110 V
Max. make current	16 A
Max. switching voltage AC/DC	110 V, 1 A / 440 V
Min. switching voltage	12 V
Min. switched current	10 mA
Insulation between contacts	1 kV, 50 Hz, 1 m

Coil specifications

Nominal voltage (U_n AC/DC)	24, 48, 60, 110, 125, 220, 230, 250 VAC/DC
Power consumption	0.5-2.2 W
Operating range	0.8...1.2 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles (AC/DC)	10×10^6 / 50×10^6
Dielectric strength, coil-contact	2000 VAC
Isolation class	C 380
Pull-in time	Adjustable, fixed possible
Release time	< 40 ms
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	140 g
Dimensions	40 x 40 x 89 mm (incl. knob)
Protection category	IP40

Options	B, E, K, Q, see page 14.
Remarks	Standard coil is 50 Hz, 60 Hz coil on request.

Standard types

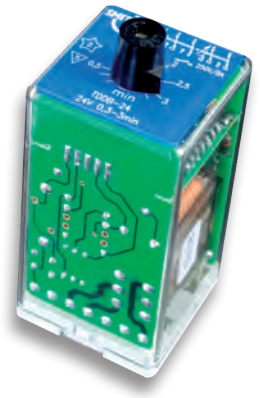
TDB4-024-XX	24 VAC/DC
TDB4-048-XX	48 VAC/DC
TDB4-060-XX	60 VAC/DC
TDB4-110-XX	110 VAC/DC
TDB4-125-XX	125 VAC/DC
TDB4-220-XX	220 VAC/DC

xx= time range

For more types check your local sales office

TDDB

Electronic, time delay-on
8 A, 4 C/O (2 C/O instantaneous + 2 C/O time delayed)



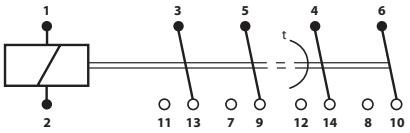
Delay-on time relay for demanding applications, switching of AC & DC, voltages, resistive and inductive loads.

- Plug-in
- 2 C/O contacts direct and 2 C/O contacts time delayed
- DC and AC input
- Flash barriers
- LED indicator
- Cadmium free contacts
- 'Smitt-style' pinning with integrated retaining silver plated clip
- Adjustable with a lockable knob (optional with fixed time)

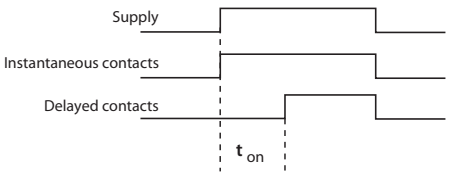
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement
Smitt-style

Connection diagram



Time diagram



Available time ranges

0.1 - 1 s	0.3 - 3 s	0.6 - 6 s	1 - 10 s	3 - 30 s	6 - 60 s
	0.3 - 3 min	0.6 - 6 min	1 - 10 min	3 - 30 min	

Contact specifications

Contact material	AgNi + 0.15 Au fl.
Number & configuration	2 C/O direct + 2 C/O time delayed
Rated continuous current	8 A
Breaking capacity AC1	2.6 A / 250 V
Breaking capacity DC1	300 mA / 300 V
Max. make current	14 A
Max. switching voltage AC/DC	250 V / 300 V
Min. switching voltage	12 V
Min. switched current	10 mA
Insulation between contacts	1 kV, 50 Hz, 1 m

Coil specifications

Nominal voltage (U_n AC/DC)	24, 48, 60, 110, 125, 220, 230, 250 VAC/DC
Power consumption	1.7 W / 1.6 VA
Operating range	0.8...1.2 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles	20 x 10^6
Dielectric strength, coil-contact	2000 VAC
Isolation class	C 250
Pull-in time	Adjustable
Release time	< 15 ms
Ambient temperature	-25 °C...+70 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	125 g
Dimensions	40 x 40 x 76/89 mm (incl. knob)
Protection category	IP40

Options — See page 14.

Remarks — Standard coil is 50 Hz, 60 Hz coil on request. An option with two LED, to indicate the presence of supply voltage and energizing or the time delayed contacts is possible at input voltages from 96 V and higher.

Standard types

TDDB-024-xx	24 VAC/DC	-
TDDB-048-xx	48 VAC/DC	-
TDDB-060-xx	60 VAC/DC	-
TDDB-110-xx	110 VAC/DC	-
TDDB-125-xx	125 VAC/DC	-
TDDB-220-xx	220 VAC/DC	-

xx= time range

For more types check your local sales office

TDE

Electronic,time delay-off
6 A, 1 C/O + 1 N/O

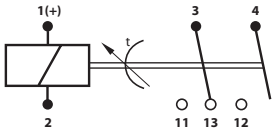
Delay-off time functions in demanding applications, switching of AC & DC voltages, resistive and inductive loads.

- Plug-in
- 1 C/O + 1 N/O contact
- DC and AC input flash barriers
- LED indicator (presence of energizing voltage)
- Cadmium free contacts
- 'Smitt-style' pinning with integrated retaining silver plated clip
- Adjustable with a lockable knob (optional with fixed time, max. 120 sec)
- Forced contacts, weld no transfer
- No auxiliary supply needed

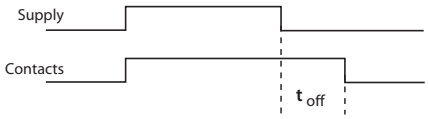
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement
Smitt-style

Connection diagram



Time diagram



Available time ranges

0.1 - 1 s 0.3 - 3 s 1 - 10 s 3 - 30 s 10 - 100 s

Contact specifications

Contact material	Ag + 0.2 µm Au
Number & configuration	1 C/O + 1 N/O
Rated continuous current	6 A
Breaking capacity AC1	2.6 A / 250 V
Breaking capacity DC1	300 mA / 300 V
Max. make current	15 A
Max. switching voltage AC/DC	2.6 A / 300 V, 300 mA
Min. switching voltage	12 V
Min. switched current	10 mA
Insulation between contacts	1 kV, 50 Hz, 1 m

Coil specifications

Nominal voltage (U_n AC/DC)	24, 48, 60, 110, 125, 220, 230, 250 VAC/DC
Power consumption	3 W / 4 VA
Operating range	0.8...1.2 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles	30 x 10^6
Dielectric strength, coil-contact	2000 VAC
Isolation class	C 250
Pull-in time	< 40 ms
Release time	Adjustable, fixed possible
Ambient temperature	-25 °C...+70 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	140 g
Dimensions	40 x 40 x 89 mm (incl. knob)
Protection category	IP40

Options — B, E, Q, see page 14.
Remarks — Standard coil is 50 Hz, 60 Hz coil on request.

Standard types

TDE-024	220 VAC/DC 0.1-1 s	333223100
TDE-220	220 VAC/DC 0.3-3 s	333223200
TDE-3	220 VAC/DC 1-10 s	333223300

For more types check your local sales office

TDE3

Electronic, time delay-off
10 A, 3 C/O

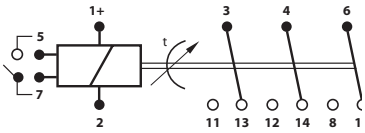
Delay-off time functions in demanding applications, switching of AC & DC voltages, resistive and inductive loads. The relay is activated by an external N/O contact.

- Plug-in
- 3 C/O contacts
- DC and AC input
- LED indicator 2x (power / energized)
- Cadmium free contacts
- 'Smitt-style' pinning with integrated retaining silver plated clip
- Adjustable with a lockable knob (optional with fixed time)

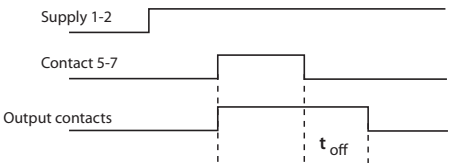
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement
Smitt-style

Connection diagram



Time diagram



Available time ranges

0.1 - 1 s	0.3 - 3 s	0.6 - 6 s	1 - 10 s		6 - 60 s
	0.3 - 3 min	0.6 - 6 min	1 - 10 min	3 - 30 min	6 - 60 min

Contact specifications

Contact material	Ag
Number & configuration	3 C/O
Rated continuous current	10 A
Breaking capacity AC1	10 A / 230 V
Breaking capacity DC1	1 A / 110 V
Max. make current	16 A
Max. switching voltage AC/DC	250 V / 440 V
Min. switching voltage	12 V
Min. switched current	10 mA
Insulation between contacts	1 kV, 50 Hz, 1 m

Coil specifications

Nominal voltage (U_n AC/DC)	24, 48, 60, 110, 125, 220, 230, 250 VAC/DC
Power consumption	2.2 W
Operating range	0.8...1.2 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles	50 x 10^6
Dielectric strength, coil-contact	2000 VAC
Isolation class	C 250
Pull-in time	50 ms
Release time	Adjustable, fixed possible
Ambient temperature	-25 °C...+70 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	140 g
Dimensions	40 x 40 x 89 mm (incl. knob)
Protection category	IP40

Options	V, C, E, B, K, see page 14.
Remarks	Standard coil is 50 Hz, 60 Hz coil on request.

Standard types

TDE3-024-xx	24 VAC/DC
TDE3-048-xx	48 VAC/DC
TDE3-060-xx	60 VAC/DC
TDE3-110-xx	110 VAC/DC
TDE3-125-xx	125 VAC/DC
TDE3-220-xx	220 VAC/DC

xx= time range

For more types check your local sales office

TDE4

Electronic, time delay-off
10 A, 4 C/O

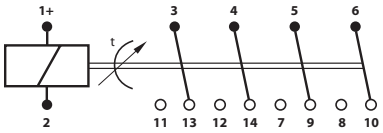
Delay-off time functions in demanding applications, switching of AC & DC voltages, resistive and inductive loads. The energizing voltage must have a step function for correct operating.

- Plug-in
- 4 C/O contacts
- DC and AC input
- LED indicator (power / energized)
- Cadmium free contacts
- 'Smitt-style' pinning with integrated retaining silver plated clip
- Adjustable with a lockable knob (optional with fixed time)

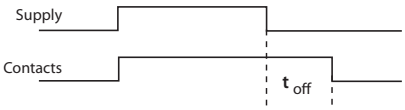
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement
Smitt-style

Connection diagram



Time diagram



Available time ranges

0.1 - 1 s 0.3 - 3 s 0.6 - 6 s 1 - 10 s 3 - 30 s 6 - 60 s 10-100 s

Contact specifications

Contact material	Ag
Number & configuration	4 C/O
Rated continuous current	10 A
Breaking capacity AC1	10 A / 230 V
Breaking capacity DC1	1 A / 230 V
Max. make current	16 A
Max. switching voltage AC/DC	250 V / 440 V
Min. switching voltage	12 V
Min. switched current	10 mA
Insulation between contacts	1 kV, 50 Hz, 1 m

Coil specifications

Nominal voltage (U_n AC/DC)	24, 48, 60, 110, 125, 220, 230, 250 VAC/DC
Power consumption	1...9 W (model depending)
Operating range	0.8...1.2 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles	10×10^6
Dielectric strength, coil-contact	2000 VAC
Isolation class	C 380
Pull-in time	< 40 ms
Release time	Adjustable, fixed possible
Ambient temperature	-25 °C...+70 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	270 g
Dimensions	40 x 55 x 89 mm (incl. knob)
Protection category	IP40
Options	V, C, E, N, K, see page 14.
Remarks	Standard coil is 50 Hz, 60 Hz coil on request.

Standard types

TDE4-024-xx	24 VAC/DC
TDE4-048-xx	48 VAC/DC
TDE4-060-xx	60 VAC/DC
TDE4-110-xx	110 VAC/DC
TDE4-125-xx	125 VAC/DC
TDE4-220-xx	220 VAC/DC

xx= time range

For more types check your local sales office

TDBE

Electronic plug-in timer, delay on & off
6 A, 2 C/O

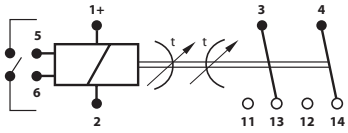
Delay on & off timer functions for demanding applications, switching of AC & DC voltages, resistive and inductive loads. The relay is activated by an external N/O contact.

- Plug-in
- 2 C/O contacts
- DC and AC input
- Flash barriers
- LED indicator 2x (supply / energized)
- Cadmium free contacts
- 'Smitt-style' pinning with integrated retaining silver plated clip
- Adjustable with two lockable knobs (optional with fixed time)
- DC control by voltage or contact

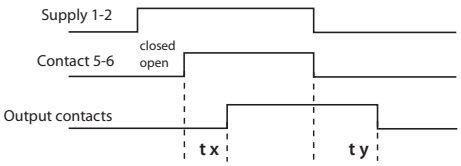
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement
Smitt-style

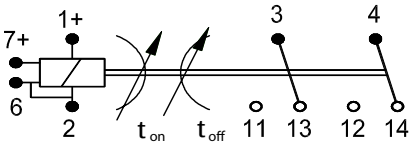
Connection diagram



Time diagram



Connection diagram (DC voltage)



Available time ranges

0.1 - 1 s	0.3 - 3 s	0.6 - 6 s	1 - 10 s	3 - 30 s	6 - 60 s
	0.3 - 3 min	0.6 - 6 min	1 - 10 min	3 - 30 min	6 - 60 min

Contact specifications

Contact material	Ag + 0.2 µm Aµ
Number & configuration	2 C/O
Rated continuous current	6 A
Breaking capacity AC1	2.6 A / 250 V
Breaking capacity DC1	300 mA / 300 V
Max. make current	15 A
Max. switching voltage AC/DC	250 V, 2.6 A / 300 V, 300 mA
Min. switching voltage	12 V
Min. switched current	10 mA
Insulation between contacts	1 kV, 50 Hz, 1 m

Coil specifications

Nominal voltage (U_n AC/DC)	24, 48, 60, 110, 125, 220, 230, 250 VAC/DC
Power consumption	1.8
Operating range	0.8...1.1 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles	30 x 10^6
Dielectric strength, coil-contact	2000 VAC
Isolation class	C 250
Pull-in time	Adjustable
Release time	Adjustable
Ambient temperature	-25 °C...+70 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	140 g
Dimensions	40 x 40 x 89 mm (incl. knob)
Protection category	IP40
Options	V, E, K, B, Q, see page 14.
Remarks	Standard coil is 50 Hz, 60 Hz coil on request.

Standard types

TDBE-024-1...10 s	24 VAC	330740100
TDBE-110-1...10 s	110 VAC	330740700
TDBE-220-1...10 s	220 VAC	330740900

For more types check your local sales office

FDA

Electronic,pulse, flashing
8 A, 2 C/O

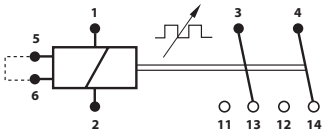
Flashing time functions in demanding applications, switching of AC & DC voltages, resistive and inductive loads.

- Plug-in
- 2 C/O contacts
- Flash barriers
- LED indicator
- 'Smitt-style' pinning with integrated retaining silver plated clip
- The pulsing frequency is adjustable with a lockable knob
- Double zener diode (standard, option Q)

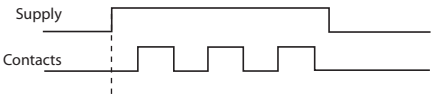
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement
Smitt-style

Connection diagram



Time diagram



Available time ranges
Pulse and interval time are equal
Start with intervaltime 20...60 flashes/min, 40...120 flashes/min

Contact specifications

Contact material	AgCdO
Number & configuration	2 C/O
Rated continuous current	8 A
Breaking capacity AC1	2.6 A / 250 V
Breaking capacity DC1	300 mA / 300 V
Max. make current	14 A
Max. switching voltage AC/DC	250 V / 300 V
Min. switching voltage	12 V
Min. switched current	10 mA
Insulation between contacts	1 kV, 50 Hz, 1 m

Coil specifications

Nominal voltage (U_n AC/DC)	24, 48, 60, 110, 125, 220, 230, 250 VAC/DC
Power consumption	1.5 W / 3.2 VA
Operating range	0.8...1.1 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles	100 x 10^6
Dielectric strength, coil-contact	2000 VAC
Isolation class	C 250
Interval time	Adjustable / lockable
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	120 g
Dimensions	40 x 40 x 66 mm (incl. knob)
Protection category	IP40
Options	See page 14.
Remarks	Standard coil is 50 Hz, 60 Hz coil on request.

Standard types

FDA-11	24 VAC/DC	331320200
FDA-21	42 - 48 VAC/DC	331320300
FDA-71	60 VDC	331320600
FDA-81	110 VAC/DC	331320400
FDA-B	120 VAC/DC	331320401
FDA-A	220 VAC	331320100

For more types check your local sales office

FDA4

Electronic, pulse, flashing
10 A, 4 C/O

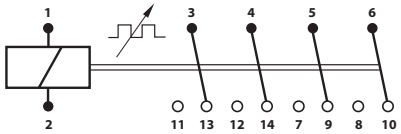
Flashing time functions in demanding applications, switching of AC & DC voltages, resistive and inductive loads.

- Plug-in
- 4 C/O contacts
- DC and AC input
- LED indicator
- Cadmium free contacts
- 'Smitt-style' pinning with integrated retaining silver plated clip
- Adjustable with a lockable knob

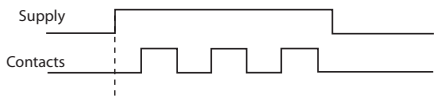
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement
Smitt-style

Connection diagram



Time diagram



Available time ranges
Pulse and interval time are equal
20...60 flashes/min, 40...120 flashes/min
Fixed or adjustable on request

Contact specifications

Contact material	Ag
Number & configuration	4 C/O
Rated continuous current	10 A
Breaking capacity AC1	10 A / 230 V
Breaking capacity DC1	1 A / 110 V
Max. make current	16 A
Max. switching voltage AC/DC	250 V / 44 V
Min. switching voltage	12 V
Min. switched current	10 mA
Insulation between contacts	1 kV, 50 Hz, 1 m

Coil specifications

Nominal voltage (U_n AC/DC)	24, 48, 60, 110, 125, 220, 230, 250 VAC/DC
Power consumption	2.2 W
Operating range	0.8...1.1 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles	10×10^6 / 50×10^6
Dielectric strength, coil-contact	2000 VAC
Isolation class	C 380
Interval time	Adjustable
Ambient temperature	-25 °C...+70 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	225 g
Dimensions	40 x 40 x 89 mm (incl. knob)
Protection category	IP40

Options — See page 14.
Remarks — Standard coil is 50 Hz, 60 Hz coil on request.

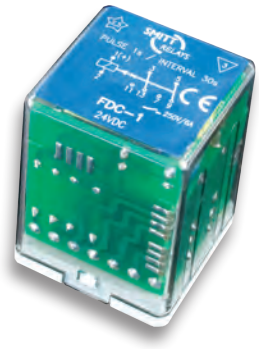
Standard types

FDA4	24 VDC	40-120 imp / min
FDA4	48 VDC	40-120 imp / min
FDA4	110 VDC	40-120 imp / min
FDA4	220 VDC	40-120 imp / min
FDA4	250 VDC	40-120 imp / min

For more types check your local sales office

FDC

Electrical, pulse, flashing
6 A, 2 C/O



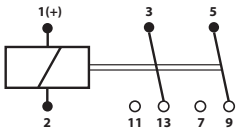
Flashing time functions in demanding applications, switching of AC & DC voltages, resistive and inductive loads.

- Plug-in
- 2 C/O contacts
- Puls / interval different
- Flash barriers
- LED indicator
- Cadmium free contacts
- 'Smitt-style' pinning with integrated retaining silver plated clip
- Adjustable with a lockable knob

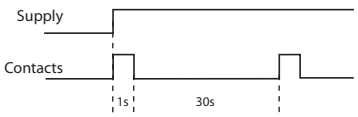
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement
Smitt-style

Connection diagram



Time diagram



Available time ranges

Pulse different from interval time
Start with pulsetime. Standard pulse = 1s, Interval = 30 s

Contact specifications

Contact material	Ag + 0.2 µm Au
Number & configuration	2 C/O
Rated continuous current	6 A
Breaking capacity AC1	2.6 A / 250 V
Breaking capacity DC1	300 mA / 300 V
Max. make current	15 A
Max. switching voltage AC/DC	250 V, 2.6 A / 300 V, 300 mA
Min. switching voltage	12 V
Min. switched current	10 mA
Insulation between contacts	1 kV, 50 Hz, 1 m

Coil specifications

Nominal voltage (U_n AC/DC)		24, 48, 60, 110 VAC/DC
Power consumption		1.2 W
Operating range	DC	0.7...1.25 U_n
	AC	0.8...1.1 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles	30 x 10^6
Dielectric strength, coil-contact	2000 VAC
Isolation class	C 250
Interval time	Fixed times
Ambient temperature	-25 °C...+70 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	115 g
Dimensions	40 x 40 x 53 mm (incl. knob)
Protection category	IP40

Options — See page 14.
Remarks — Standard coil is 50 Hz, 60 Hz coil on request.

Standard types

FDC-1	24 VDC 1 s / 30 s	331330100
FDC-2	100 VDC1 s / 30 s	331330101

For more types check your local sales office

WDE4

Electronic, time, one-shot on 10 A, 4 C/O

One-shot pulse functions in demanding applications, switching of AC & DC voltages, resistive and inductive loads.

- Plug-in
- 4 C/O contacts
- DC and AC input
- LED indicator
- Cadmium free contacts
- 'Smitt-style' pinning with integrated retaining silver plated clip
- Adjustable with a lockable knob
- Activates pulse on energization coil

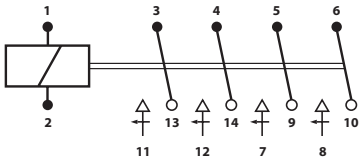
Standards

EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

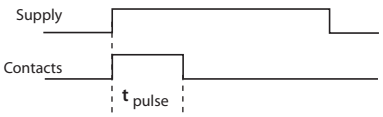
Pin arrangement

Smitt-style

Connection diagram



Time diagram



Available time ranges

0.1 - 1 s	0.3 - 3 s	0.6 - 6 s	1 - 10 s	3 - 30 s	6 - 60 s
	0.3 - 3 min	0.6 - 6 min	1 - 10 min	3 - 30 min	6 - 60 min

Contact specifications

Contact material	Ag
Number & configuration	4 C/O
Rated continuous current	10 A
Breaking capacity AC1	10 A / 230 V
Breaking capacity DC1	1 A / 110 V
Max. make current	16 A
Max. switching voltage AC/DC	230 V / 250 V
Min. switching voltage	12 V
Min. switched current	10 mA
Insulation between contacts	1 kV, 50 Hz, 1 m

Coil specifications

Nominal voltage (U_n AC/DC)	24, 48, 60, 110, 125, 220, 230, 250 VAC/DC
Power consumption	2.2 W
Operating range	0.8...1.2 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles	30×10^6
Dielectric strength, coil-contact	2000 VAC
Isolation class	C 380
Interval time	Adjustable
Ambient temperature	-25 °C...+70 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	140 g
Dimensions	40 x 40 x 89 mm (incl. knob)
Protection category	IP40

Options	See page 14.
Remarks	Standard coil is 50 Hz, 60 Hz coil on request.

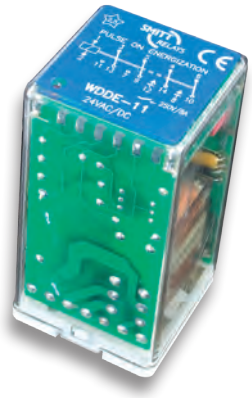
Standard types

WDE4	220 V 1 - 10 s	332 040 903

For more types check your local sales office

WDDE

Electronic, time, one-shot on 8 A, 2 C/O + 2 C/O



One-shot pulse functions in demanding applications, switching of AC & DC voltages, resistive and inductive loads.

- Plug-in
- 2 C/O instant + 2 C/O timed
- DC and AC input
- Flash barriers
- LED indicator
- Cadmium free contacts
- 'Smitt-style' pinning with integrated retaining silver plated clip
- Generates a 0.5 s pulse on energization
- Fixed time

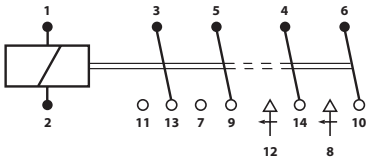
Standards

EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

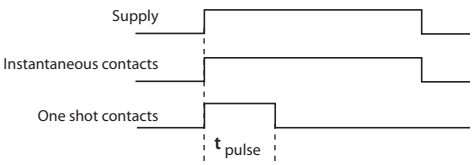
Pin arrangement

Smitt-style

Connection diagram



Time diagram



Available time ranges

Fixed 0.5 s

Contact specifications

Contact material	Ag + 0.15 µm Au
Number & configuration	2 C/O + 2 C/O
Rated continuous current	8 A
Breaking capacity AC1	2.6 A / 250 V
Breaking capacity DC1	300 mA / 300 V
Max. make current	14 A
Max. switching voltage AC/DC	300 V / 250 V
Min. switching voltage	12 V
Min. switched current	10 mA
Insulation between contacts	1 kV, 50 Hz, 1 m

Coil specifications

Nominal voltage (Un AC/DC)	24, 48, 60, 110, 125, 220, 230, 250 VAC/DC
Power consumption	1.3 W / VA
Operating range	0.8...1.1 Un (0.7...1.25 Un option V)

Technical data

Mechanical life cycles	20 x 10^6
Dielectric strength, coil-contact	2000 VAC
Isolation class	C 250
Pulse time DC/AC	0.5 s
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	125 g
Dimensions	40 x 40 x 76 mm
Protection category	IP40

Remarks: Other pulses on request.

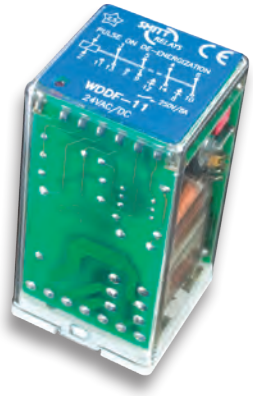
Standard types

WDDE-11	24 VAC/DC	332012002
WDDE-21	48 VAC/DC	332012003
WDDE-71	60 VAC/DC	332012004
WDDE-81	110 VAC/DC	332012006
WDDE-1	220 VAC/DC	332012007

For more types check your local sales office

WDDF

Electronic time, one-shot off
8 A, 2 C/O + 2 C/O



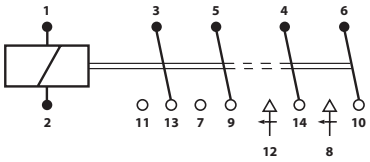
One-shot pulse functions in demanding applications, switching of AC & DC voltages, resistive and inductive loads.

- Plug-in
- 2 C/O instant + 2 C/O timed
- DC and AC coil
- Flash barriers
- LED indicator
- Cadmium free contacts
- 'Smitt-style' pinning with integrated retaining silver plated clip
- Generates a 0.5 s pulse on de-energization
- Fixed time (other pulse times on request)
- No auxilary supply needed

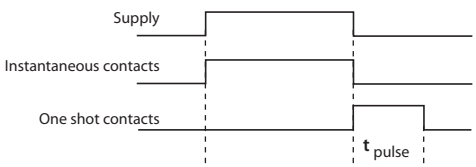
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement
Smitt-style

Connection diagram



Time diagram



Available time ranges
Fixed 0.5 s

Contact specifications

Contact material	Ag + 0.15 µm Au
Number & configuration	2 C/O + 2 C/O
Rated continuous current	8 A
Breaking capacity AC1	2.6 A / 250 V
Breaking capacity DC1	300 mA / 300 V
Max. make current	14 A
Max. switching voltage AC/DC	300 V / 250 V
Min. switching voltage	12 V
Min. switched current	10 mA
Insulation between contacts	1 kV, 50 Hz, 1 m

Coil specifications

Nominal voltage (U_n AC/DC)	24, 48, 60, 110, 125, 220, 230, 250 VAC/DC
Power consumption	1.3 W / VA
Operating range	0.8...1.1 U_n (0.7...1.25 U_n option V)

Technical data

Mechanical life cycles	20 x 10^6
Dielectric strength, coil-contact	2000 VAC
Isolation class	C 250
Pulse time DC/AC	0.5 s
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	125 g
Dimensions	40 x 40 x 76 mm
Protection category	IP40

Options See page 14.

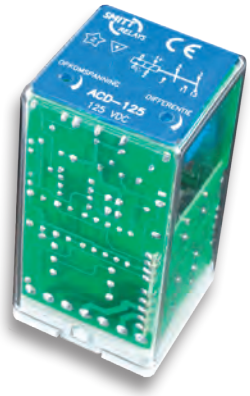
Standard types

WDDF-11	24 VAC/DC	332012102
WDDF-21	48 VAC/DC	332012103
WDDF-71	60 VAC/DC	332012104
WDDF-81	110 VAC/DC	332012105
WDDF-1	220 VAC/DC	332012107

For more types check your local sales office

ACD

Electronic DC voltage monitoring
6 A, 1 C/O + 1 N/O



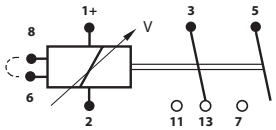
The relay reacts on the value of a DC voltage with ripple. The pull-in voltage and hysteresis is adjustable by multiturn trimpotentiometers. The pull-in time after crossing the setpoint is < 15 ms and the drop-out time is approx. 20 ms, which can be extended to 250 ms.

- Plug in
- 1 C/O + 1 N/O contact
- DC input
- Flash barriers
- Cadmium free contacts
- 'Smitt-style' pinning with integrated retaining silver plated clip
- Adjustable pull-in & hysteresis
- Triptime, 20 ms (if terminals 6 & 8 connected 0.25 s)

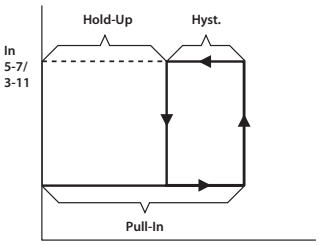
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement
Smitt-style

Connection diagram



Working principle



Contact specifications

Contact material	Ag + 0.2 µm Au
Number & configuration	1 C/O + 1 N/O
Rated continuous current	6 A
Breaking capacity AC1	2.6 A / 250 V
Breaking capacity DC1	300 mA / 300 V
Max. make current	15 A
Max. switching voltage	300 VAC / 250 VDC
Min. switching voltage	4 V
Min. switched current	2 mA

Coil specifications

Nominal voltage (Un DC)	24, 48, 60, 110, 125 VDC
Operating range	0.9...1.3 Un

Technical data

Mechanical life cycles	30 x 10^6
Dielectric strength, coil-contact	4000 VAC
Isolation class	C 250
Pull-in time DC	15 ms
Release time DC	120 ms
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	120 g
Dimensions	40 x 40 x 76 mm
Protection category	IP40

Options — See page 14.
Remarks — Standard coil is 50 Hz, 60 Hz coil on request.
Measuring range

Type	Unom (V)	Umax (V)	Upull-in (V)	Uhysteresis (V)	Power consumption
ACD-024	24	35	21...33	1...8	< 0.55
ACD-048	48	70	42...66	2...16	< 0.85
ACD-060	60	88	52...82	3...20	< 1.10
ACD-110	110	160	90...140	4...32	< 1.35
ACD-125	125	180	110...160	5...40	< 1.50

Standard types

ACD-012	12 VDC	330402100
ACD-024	24 VDC	330402200
ACD-048	48 VDC	330402500
ACD-110	110 VDC	330402700

For more types check your local sales office

UMD

Electronic voltage monitoring
6 A, 1 C/O + 1 N/O

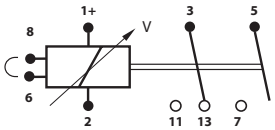
For demanding AC or DC applications, over and under voltage monitoring. The pull-in voltage is adjustable and lockable with a knob. Fixed settings are possible.

- Plug-in
- 1 C/O + 1 N/O contact
- DC and AC input
- Flash barrier
- 2 LED indicators (energization and contact switching)
- Cadmium free contacts
- 'Smitt-style' pinning with integrated retaining silver plated clip
- Adjustable with a lockable knob
- No auxiliary supply required
- Weld no transfer contacts

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement
Smitt-style

Connection diagram



Contact specifications

Contact material	Ag + 0.2 µm Au
Number & configuration	1 C/O + 1 N/O
Rated continuous current	6 A
Breaking capacity AC1	2.6 A / 250 V
Breaking capacity DC1	300 mA / 300 V
Max. make current	15 A
Max. switching voltage AC/DC	300 VAC / 250 VDC
Min. switching voltage	12 V
Min. switched current	10 mA

Coil specifications

Nominal voltage	U_n DC	24, 110, 220, 240 VDC
	U_n AC	24, 48, 110, 220 VAC
Operating range		0.7...1.3 U_n

Technical data

Mechanical life cycles	30 x 10^6
Dielectric strength, coil-contact	2000 VAC
Isolation class	C 250
Ambient temperature	-25 °C...+55 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	130 g
Dimensions	40 x 40 x 89 mm
Protection category	IP40

Options See page 14.

Measuring range

Type	Unom (VAC)	Unom (VDC)	Uadj.min (V)	Uadj. max (V)	Power consumption
UMD-C1	240		165	280	< 6.0 VA
UMD-1	220		150	260	< 6.0 VA
UMD-01	110		80	240	< 1.4 VA
UMD-41	24		18	30	< 0.6 VA
UMD-91		220	150	260	< 1.6 W
UMD-81		110	80	140	< 1.0 W
UMD-61		48	35	60	< 0.6 W
UMD-31		24	18	30	< 0.3W

Standard types

UMD-31	24 VDC	330442600
UMD-61	48 VDC	330442500
UMD-81	110 VDC	330442400
UMD-91	220 VDC	330442700
UMD-41	24 VAC	330442300
UMD-01	110 VAC	330442200
UMD-1	220 VAC	330442100

For more types check your local sales office

SERVING SAFETY

DI

Current monitoring
10 A, 2 C/O

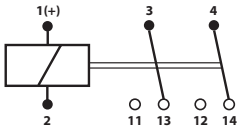
Monitoring the status of for example lamps, motors, heating element by connecting the coil of the DI relay in series with the load.

- 2 C/O contacts
- DC or AC current coil
- Cadmium free contacts

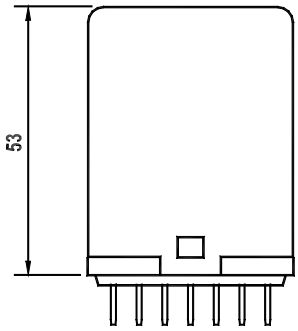
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

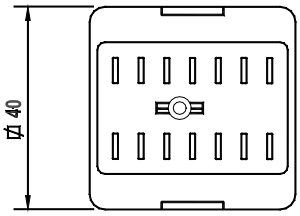
Pin arrangement
Smitt-style

Connection diagram



Dimensions





Contact specifications

Contact material	Ag
Number & configuration	2 C/O
Rated continuous current	10 A
Breaking capacity AC1	10 A / 230 V
Breaking capacity DC1	1 A / 110 V
Max. make current (200 A, 10 ms)	16 A
Max. switching voltage	350 VDC / 440 VAC
Min. switching voltage	12 V
Min. switched current	10 mA (Au, 1µV, 1µA)

Coil specifications

Nominal voltage (I_n)	A DC	0.018...3.9
	A AC	0.018...3.9
Power consumption (DC/AC)		0.3 W / 1.5 VA
Operating range	DC	0.8...2 I_n
	AC	0.8...1.4 I_n

Technical data

Mechanical life cycles (AC/DC)	10 x 10^6 / 50 x 10^6
Dielectric strength, coil-contact	2500 VAC
Dielectric strength contacts	3500 VAC
Isolation class	C 380
Pulse time DC/AC	≤ 20 / 10 ms
Release time DC/AC	5 ms
Ambient temperature	-25 °C...+70 °C
Humidity	95% / 40 °C
Salt mist	5% NaCl, 35 °C for 4 days
Weight	125 g
Dimensions	40 x 40 x 53 mm
Protection category	IP40

Options	V, E, B, see page 14.
Remarks	Standard AC coil is 50 Hz, 60 Hz coil on request.

Standard types

DI	0.15 ADC	330218075
DI	1.0 ADC	330218017
DI	2.2 ADC	330218021
DI	0.15 A 50Hz	330218057
DI	1.0 A 50Hz	330218067

For more types check your local sales office

V2 & V21

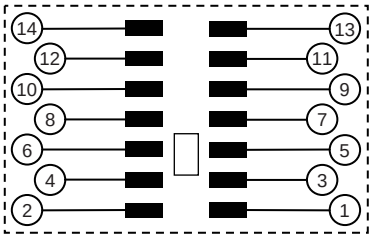
Compact surface / wall and 35 mm rail Screw terminals

The V2 & V21 compact relay socket has one screw terminal per relay contact suitable for two wires up to 2.5 mm^2

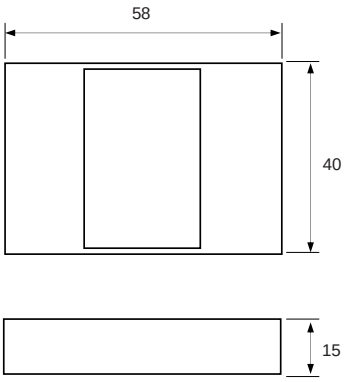
Standards

EN 60255
EN 60947
EN 60947-5-1
IEC 61810

Connection diagram



Dimensions



Features

- Screw terminals
- Rail mounting 35 mm (V21)
- Touch proof IP20
- Suitable for all D-relays
- Up to 2.5 mm^2 wire per connection terminal
- Bifurcated

Benefits

- Compact design, space saving
- Proven reliable
- Long term availability
- Easy to maintain
- Low life cycle cost
- No maintenance

Specifications

Suitable for	All D-relays
Contact rating	10 A (AC1) IEC 60947
Protecting category	IP20, IEC 60529
Mounting	Surface (V2) or 35 mm rail (V21)
Max. ambient temperature	80 °C
Weight	V2 = 48 g, V21 = 70 g
Dimensions	58 x 40 x 15.2 mm
Material	Polyamide 66 / 6% glass
Socket contacts	Screw
Wire diameter	2.5 mm^2 maximum

Ordering codes

V2	Surface mounting socket	338000100
V21	Rail mounting socket	338000200

V23

Surface / wall and 35 mm rail
Screw terminals

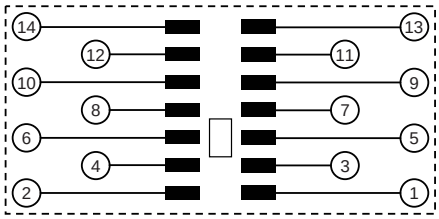
The V23 relay socket has one screw terminal per relay contact suitable for two wires up to 2.5 mm², so looping/daisy chaining can be done on the socket and no external connector or terminal is needed.

The V23 has no internal soldering connections which makes it highly reliable. To prevent any faulty relay placement the socket can be equipped with mechanical keying to accept only designated identical keyed relays.

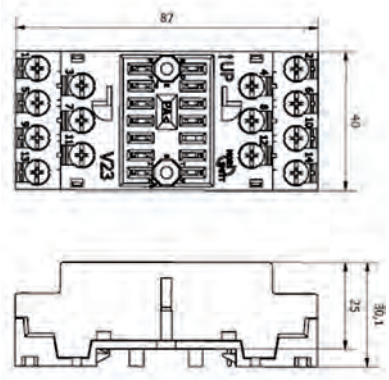
Clear UP arrow for correct 35 mm rail mounting.

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810

Connection diagram



Dimensions



Features
- Sturdy screw terminals
- No internal solderings / connections
- Rail mounting 35 mm
- Touch proof IP20
- Suitable for all D-relays
- Up to two wires of 2.5 mm² per connection terminal
- Positive mechanical keying
- Trifurcated female receiver for tight grip relay pin
- Clear terminal ID

Benefits
- Proven reliable
- Long term availability
- Easy to maintain
- Low life cycle cost
- No maintenance

Specifications

Suitable for	All D-relays
Contact rating	10 A (AC1) IEC 60947
Dielectric strength	3500 V, 50 Hz, 1 m
Protecting category	IP20, IEC 60529
Mounting	35 mm rail
Max. ambient temperature	80 °C
Weight	135 g
Dimensions	87 x 40 x 40 mm
Material	Polyamide 66 / 30% glass
Socket contacts	Screw terminal, 7 mm wide
Wire diameter	2.5 mm² maximum

Ordering code

V23	Socket	338000580

V22BR & V23BR

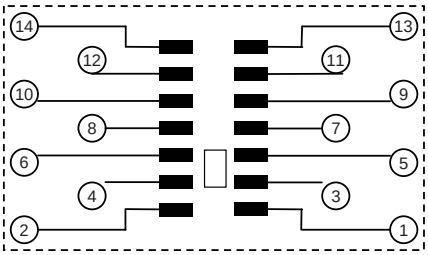
Surface / wall and 35 mm rail
Wide screw terminals

The V22BR and V23BR relay socket has one extra wide screw terminal per relay contact suitable for ring termals, so looping/daisy chaining can be done on the socket and no external connector or terminal is needed.

Clear UP arrow for correct 35 mm rail mounting.

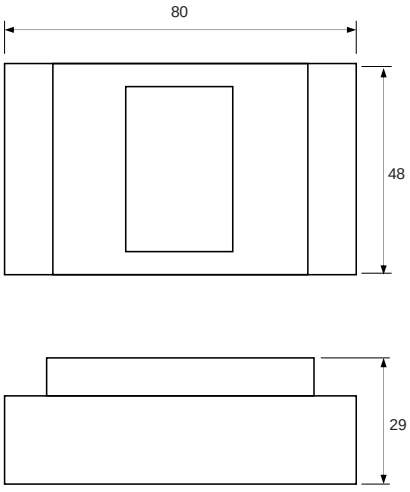
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810

Connection diagram



Features
- Sturdy screw terminals
- No internal solderings / connections
- Rail mounting 35 mm
- Suitable for ring terminals
- Positive mechanical keying
- Bifurcated female receiver for tight grip relay pin
- Clear terminal ID

Dimensions



Benefits
- Proven reliable
- Long term availability
- Easy to maintain
- Low life cycle cost
- No maintenance

Specifications

Suitable for	All D-relays
Contact rating	10 A (AC1) IEC 60947
Protecting category	IP20 relay side, IEC 60529
Mounting	Surface (V22BR) or 35 mm rail (V23BR)
Max. ambient temperature	80 °C
Weight	V22BR = 110 g, V23BR = 125 g
Dimensions	80 x 48 x 29 mm
Material	Polyamide 66 / 35% glass
Socket contacts	Screw terminal, 9 mm wide
Wire diameter	2.5 mm² maximum

Ordering codes

V22BR	Surface mounting socket	338000302
V23BR	Rail mounting socket	338000402

V29

Surface / wall and 35 mm rail
Spring terminals

The V29 relay socket has two high quality spring terminals per relay contact suitable for two wires up to 2.5 mm² (solid or stranded), so looping/daisy chaining can be done on the socket and no external connector or terminal is needed.

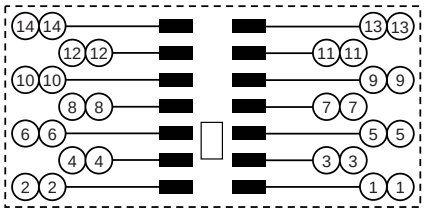
The spring terminal makes quick connection possible by pressing the spring with a flat-bladed screwdriver and inserting the stripped wire. Solid and (fine) stranded wire up to 2.5 mm² can be inserted. This quick & easy wiring method saves up to 75% wiring time compared with classic technology, like screw terminals.

To prevent any faulty relay placement the socket can be equipped with mechanical keying to accept only designated identical keyed relays.

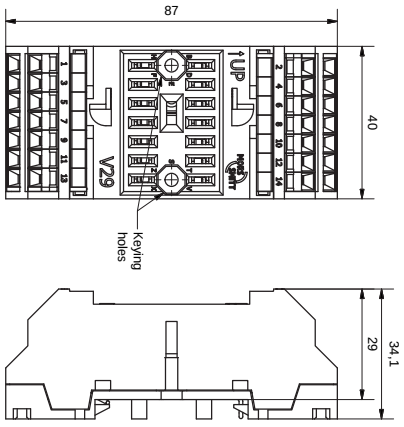
Clear UP arrow for correct 35 mm rail mounting

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810

Connection diagram



Dimensions



Features
- Spring terminals
- No internal solderings / connections
- Rail mounting 35 mm
- Touch proof IP20
- Twin connection per contact. Wire up to 2.5 mm²
- Easy & quick installation (75% reduction of wiring time)
- Positive mechanical keying
- Trifurcated female receiver for tight grip relay pin
- Clear terminal ID

Benefits
- Proven reliable
- Long term availability
- Easy to maintain
- Low life cycle cost
- No maintenance

Specifications

Suitable for	All D-relays
Contact rating	10 A (AC1) IEC 60947
Dielectric strength	2500 V, 50 Hz, 1 m
Protecting category	IP20, IEC 60529
Mounting	35 mm rail
Max. ambient temperature	80 °C
Weight	70 g
Dimensions	58 x 40 x 15.2 mm
Material	Polyamide 66 / 6% glass
Socket contacts	Screw
Wire diameter	2.5 mm² maximum

Ordering code

V29	Socket	338000610

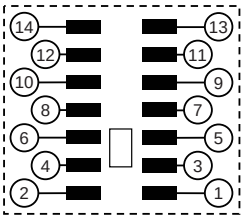
V3

Panel / flush
Soldering connections

The V3 relay socket has soldering connections.

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810

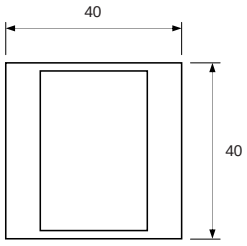
Connection diagram

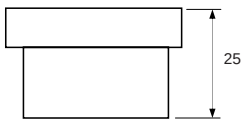


Features
- Sturdy soldering terminals
- Flush/panel mounting
- Bifurcated female receiver for tight grip relay pin

Benefits
- Proven reliable
- Long term availability
- Easy to maintain
- Low life cycle cost
- No maintenance

Dimensions





Specifications

Suitable for	All D-relays
Contact rating	10 A (AC1) IEC 60947
Protecting category	IP20 relay side, IEC 60529
Mounting	Panel
Max. ambient temperature	80 °C
Weight	22 g
Dimensions	40 x 40 x 25 mm
Material	Polyamide 66 / 35% glass
Socket connection	Soldering

Ordering code

V3	Socket	338100100

SERVING SAFETY

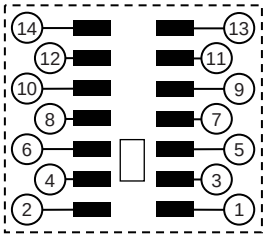
V26

Panel
Crimp terminals

The V26 relay socket is connected with A260 crimp terminals.
(A260 crimp terminals to be ordered separate.)

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

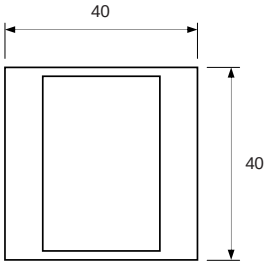
Connection diagram

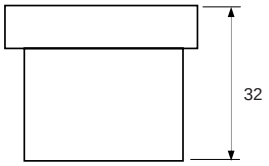


Features
- Sturdy crimp terminals
- Flush/panel mounting
- Bifurcated female receiver for tight grip relay pin

Benefits
- Proven reliable
- Long term availability
- Easy to maintain
- Low life cycle cost
- No maintenance

Dimensions





Specifications

Suitable for	All D-relays
Contact rating	10 A (AC1) IEC 60947
Protecting category	IP20 relay side, IEC 60529
Mounting	Panel
Max. ambient temperature	80 °C
Weight	40 g incl. 14 crimp contacts
Dimensions	40 x 10 x 32 mm
Material	Polyamide 66 / 30% glass
Socket connection	Crimp terminals A260, to be ordered seperate
Wire diameter	Core 1.3 to 2.0 mm, isolation 3.0 to 4.6 mm
Strip length isolation	6 mm
Remark	Socket must be ordered with 14 A260 crimp terminals

Ordering code

V26	Socket	328400100

V31

Panel
Double faston connection

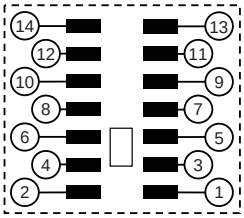
The V31 relay socket has double 4.8 mm faston connections, so looping / daisy chaining can be done.

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810

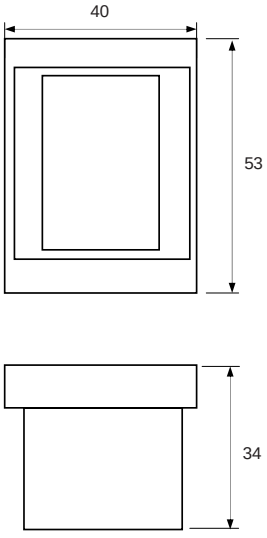
Features
- Double faston 4.8 mm connection, per terminal
- Flush/panel mounting
- Touch proof IP20
- Trifurcated female receiver for tight grip relay pin

Benefits
- Proven reliable
- Long term availability
- Easy to maintain
- Low life cycle cost
- No maintenance

Connection diagram



Dimensions



Specifications

Suitable for	All D-relays
Contact rating	10 A (AC1) IEC 60947
Protecting category	IP20 relay side, IEC 60529
Mounting	Flush/panel
Max. ambient temperature	80 °C
Weight	50 g
Dimensions	53 x 40 x 34 mm
Material	Polyamide 66 / 35% glass
Socket connections	Faston 2 x 4.8 mm per terminal
Wire diameter	2 x 4.8 mm^2 maximum

Ordering code

V31	Socket	338000560

V32

PCB
Soldering connection

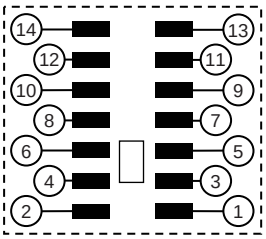
The V32 relay socket has PCB soldering connections.

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810

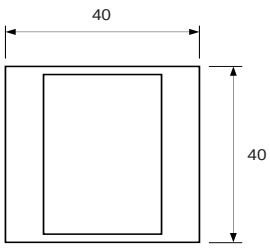
Features
- PCB soldering connections
- Flush/panel mounting
- Touch proof IP20
- Bifurcated female receiver for tight grip relay pin

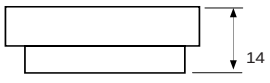
Benefits
- Proven reliable
- Long term availability
- Easy to maintain
- Low life cycle cost
- No maintenance

Connection diagram



Dimensions





Specifications

Suitable for	All D-relays
Contact rating	10 A (AC1) IEC 60947
Protecting category	IP20 relay side, IEC 60529
Mounting	PCB soldering
Max. ambient temperature	80 °C
Weight	24 g
Dimensions	40 x 40 x 14 mm
Material	Polyamide 66 / 35% glass
Socket connections	PCB

Ordering code

V32	Socket	338000561

V33

Panel
Spring terminals

The V33 relay socket has two high quality spring terminals per relay contact suitable for two wires up to 2.5 mm² (solid or stranded), so looping / daisy chaining can be done on the socket and no external connector or terminal is needed.

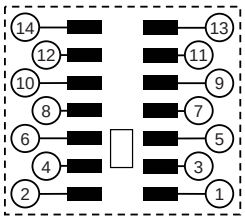
The spring terminal makes quick connection possible by pressing the spring with a flat-bladed screwdriver and inserting the stripped wire. Solid and (fine) stranded wire up to 2.5 mm² can be inserted. This quick & easy wiring method saves up to 75% wiring time compared with classic technology, like screw terminals.

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810

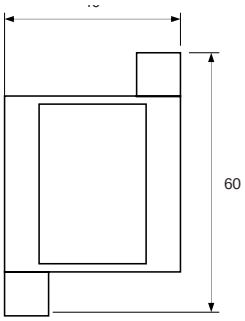
Features
- Spring terminals
- No internal soldering connections
- Flush/panel mounting
- Touch proof IP20
- Twin connection per contact. Wire up to 2.5 mm²
- Easy & quick installation (75% reduction of wiring time)
- Trifurcated female receiver for tight grip relay pin
- Clear terminal ID

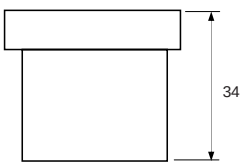
Benefits
- Proven reliable
- Long term availability
- Easy to maintain
- Low life cycle cost
- No maintenance

Connection diagram



Dimensions





Specifications

Suitable for	All D-relays
Contact rating	10 A (AC1) IEC 60947
Protecting category	IP20 relay side, IEC 60529
Mounting	Flush/panell
Max. ambient temperature	80 °C
Weight	69 g
Dimensions	60 x 40 x 46 mm
Material	Polyamide 66 / 30% glass
Socket connection	Spring terminal
Wire diameter	0.08-2.5 mm²
Stripping length	5-6 mm

Ordering code

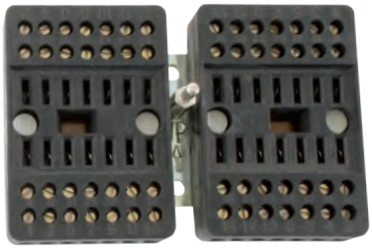
V33	Socket	338000570

V9 & V91

Compact surface / wall and 35 mm rail
Screw terminals

The V9 & V91 compact relay socket has one screw terminal per relay contact suitable for two wires up to 2.5 mm².

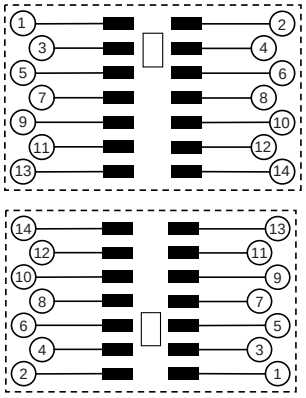
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810



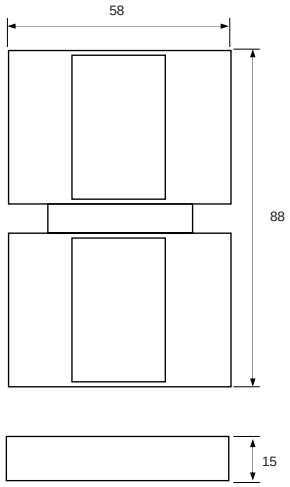
Features
- Screw terminals
- Surface/wall mounting (V9)
- 35 mm rail mounting (V91)
- Touch proof IP20
- Up to 2.5 mm² wire per connection terminal
- Bifurcated female receiver for tight grip relay pin

Benefits
- Compact design, space saving
- Proven reliable
- Long term availability
- Easy to maintain
- Low life cycle cost
- No maintenance

Connection diagram



Dimensions



Specifications

Suitable for	All KDN & D8 relays
Contact rating	10 A (AC1) IEC 60947
Protecting category	IP20, IEC 60529
Mounting	SV9= surface/wal V91 35 mm rail
Max. ambient temperature	80 °C
Weight	V9 = 168 g, V91 = 212 g
Dimensions	87 x 40 x 40 mm
Material	Polyamide 66 / 30% glass
Socket connection	Screw terminal

Ordering codes

V9	Surface socket	338000900
V91	Rail socket	338001900

V93

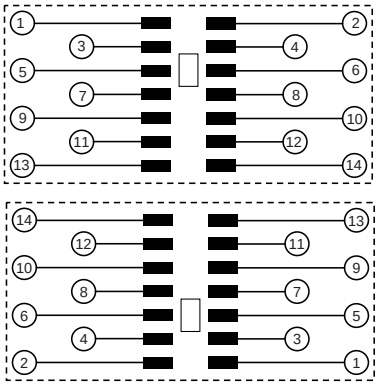
Surface / wall and 35 mm rail
Screw terminals

The V93 relay socket has one screw terminal per relay contact suitable for two wires up to 2.5 mm², so looping/daisy chaining can be done on the socket and no external connector or terminal is needed.

Clear UP arrow for correct 35 mm rail mounting.

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810

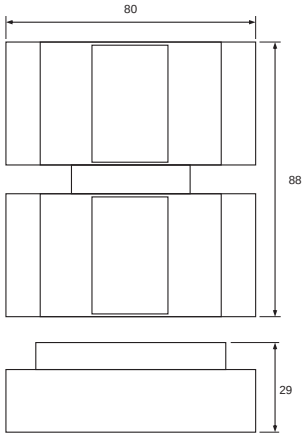
Connection diagram



Features
- Sturdy screw terminals
- No internal solderings / connections
- Rail mounting 35 mm & surface mounting
- Positive mechanical keying
- Trifurcated female receiver for tight grip relay pin
- Clear terminal ID

Benefits
- Proven reliable
- Long term availability
- Easy to maintain
- Low life cycle cost
- No maintenance

Dimensions



Specifications

Suitable for	All KDN & D8 relays
Contact rating	10 A (AC1) IEC 60947
Mounting	35 mm rail
Max. ambient temperature	80 °C
Weight	60 g
Dimensions	80 x 88 x 42 mm
Material	Polyamide 66 / 30% glass
Socket connection	Screw terminal, 7 mm wide
Wire diameter	2.5 mm² maximum

Ordering code

V93	Socket	338003900

SERVING SAFETY

V99

Surface / wall and 35 mm rail
Spring terminals

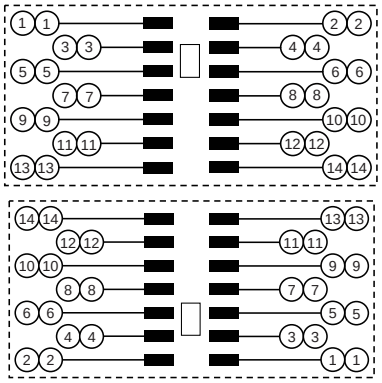
The V99 relay socket has two high quality spring terminals per relay contact suitable for two wires up to 2.5 mm² (solid or stranded), so looping/daisy chaining can be done on the socket and no external connector or terminal is needed.

The spring terminal makes quick connection possible by pressing the spring with a flat-bladed screwdriver and inserting the stripped wire. Solid and (fine) stranded wire up to 2.5 mm² can be inserted. This quick & easy wiring method saves up to 75% wiring time compared with classic technology, like screw terminals.

Clear UP arrow for correct 35 mm rail mounting

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810

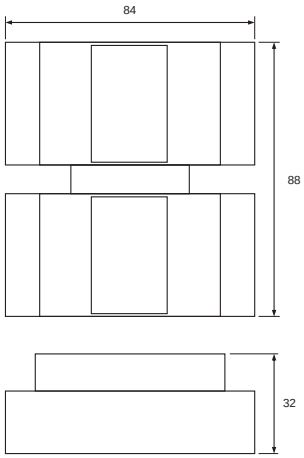
Connection diagram



Features
- Spring terminals
- No internal solderings / connections
- Rail mounting 35 mm and surface mounting
- Touch proof IP20
- Twin connection per contact. Wire up to 2.5 mm²
- Easy & quick installation (75% reduction of wiring time)
- Positive mechanical keying
- Trifurcated female receiver for tight grip relay pin
- Clear terminal ID

Benefits
- Proven reliable
- Long term availability
- Easy to maintain
- Low life cycle cost
- No maintenance

Dimensions



Specifications

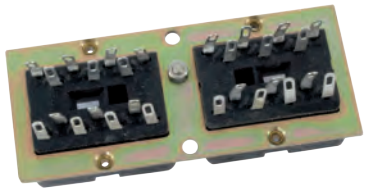
Suitable for	All KDN & D8 relays
Contact rating	10 A (AC1) IEC 60947
Protecting category	IP20, IEC 60529
Mounting	35 mm rail
Max. ambient temperature	80 °C
Weight	290 g
Dimensions	87 x 40 x 40 mm
Material	Polyamide 66 / 30% glass
Socket contacts	Spring terminal
Wire diameter	2.5 mm² maximum

Ordering code
V99 Socket 338003910

V96

Panel mounting
Soldering terminals

The V96 relay socket has soldering connections.

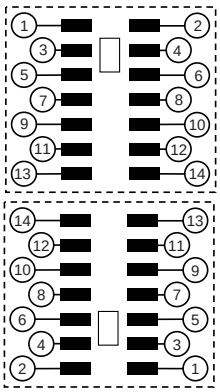


Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810

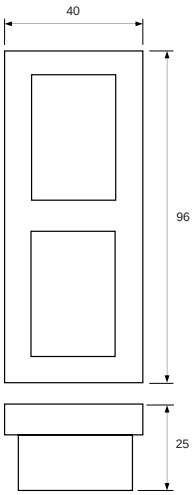
Features
- Sturdy soldering terminals
- Flush/panel mounting
- Bifurcated female receiver for tight grip relay pin

Benefits
- Proven reliable
- Long term availability
- Easy to maintain
- Low life cycle cost
- No maintenance

Connection diagram



Dimensions



Specifications

Suitable for	All KDN & D8 relays
Contact rating	10 A (AC1) IEC 60947
Protecting category	IP20 relay side, IEC 60529
Mounting	Panel
Max. ambient temperature	80 °C
Weight	135 g
Dimensions	87 x 40 x 40 mm
Material	Polyamide 66 / 35% glass
Socket connections	Soldering

Ordercodes

V96	Panel socket	338100200

V97

Panel
Crimp terminals

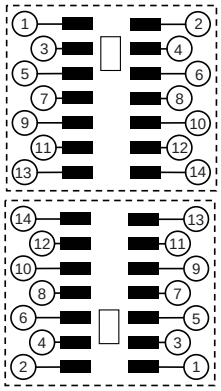
The V97 relay socket is connected with A260 crimp terminals. A260 crimp terminalsto be ordered seperate.

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810

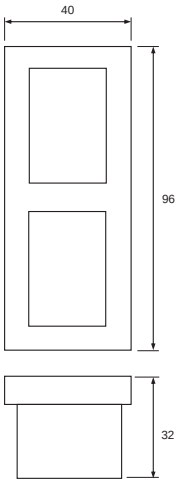
Features
- Sturdy crimp terminals
- Flush/panel mounting
- Bifurcated female receiver for tight grip relay pin

Benefits
- Proven reliable
- Long term availability
- Easy to maintain
- Low life cycle cost
- No maintenance

Connection diagram



Dimensions



Specifications

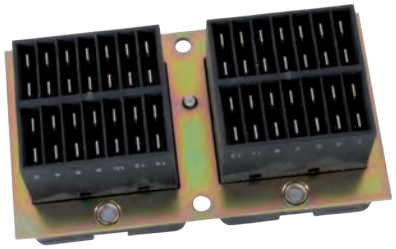
Suitable for	All D-relays
Contact rating	10 A (AC1) IEC 60947
Protecting category	IP20 relay side, IEC 60529
Mounting	Panel
Max. ambient temperature	80 °C
Weight	135 g
Dimensions	87 x 40 x 40 mm
Material	Polyamide 66 / 30% glass
Socket connections	Crimp terminals A260, to be ordered seperate
Wire diameter	Core 1.3 to 2.0 mm, isolation 3.0 to 4.6 mm
Strip length isolation	6 mm
Remark	Socket must be ordered with 28 A260 crimp terminals

Ordercodes

V97	Panel socket	338400100

V89

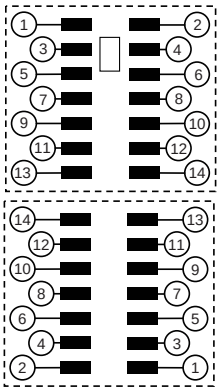
Panel mounting
Faston terminals



The V89 relay socket has double 4.8 mm faston connections.

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810

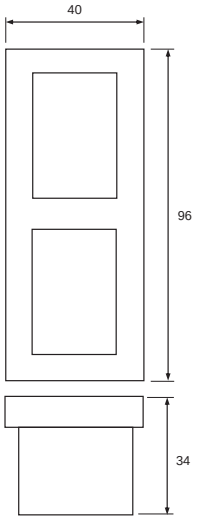
Connection diagram



Features
- Double faston 4.8 mm connection, per terminal
- Flush/panel mounting
- Touch proof IP20
- Trifurcated female receiver for tight grip relay pin

Benefits
- Proven reliable
- Long term availability
- Easy to maintain
- Low life cycle cost
- No maintenance

Dimensions



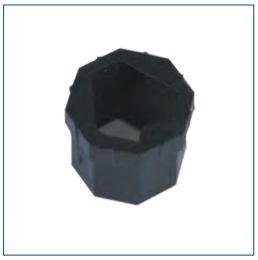
Specifications

Suitable for	All D-relays
Contact rating	10 A (AC1) IEC 60947
Protecting category	IP20 relay side, IEC 60529
Mounting	Flush/panel
Max. ambient temperature	80 °C
Weight	50 g
Dimensions	53 x 40 x 34 mm
Material	Polyamide 66 / 35% glass
Socket connections	Faston 2 x 4.8 mm per terminal
Wire diameter	2 x 4.8 mm^2 maximum

Ordercodes

V89	KDN & D8 socket	338001800

Accessories



A104 - Selection bus

For sockets:
V23, V25, V29

Article number:
378690100

A260 Crimp terminals

For socket:
V26

Article number:
500220000

Example ordering scheme
D-relays

1. Relay series 2. Options 3. Coil voltage

D	-	YB	-	220 VDC

This example represents a D-YB 220 VDC. Description: D relay, U_{nom}: 220 VDC, 2 double make / double break contacts, magnetic arc blow-out.

1. Relay series

D

2. Options

A	Trip indicator	**S**	Mechanical position indicator
B	Magnetic arc blow-out	**T**	Push to test button
C	Low temperature (-40 °C)	**V**	Wide operating and temperature range
D	Back EMF diode (standard in DC coil)	**W**	Weld no transfer contacts
E	Gold plated contacts	**X2**	Rectifier circuit
H	High Burden protection	**X3**	Reversed polarity
K	Cover sealed	**X4**	Make before break contacts
L	LED integrated coil	**X5**	Contact gap 2 mm
M	$AgSnO_2$ contacts	**Y**	Double make / double break contacts
P	Polarisation diode	**Z**	No diode no LED
Q	Double zener diode	**11**	Make before break contact
R	Fast switching (<7 ms)		
		Keying	Coil coding for relay and socket
		Colour	Coloured cover for coil voltage

3. Coil voltages

5 VDC	**65 VDC**	**6 VAC 50Hz**	**230-240 VAC 50Hz**
6 VDC	**72 VDC**	**12 VAC 50Hz**	**350 VAC 50Hz**
7 VDC	**80 VDC**	**24 VAC 50Hz**	**380-400 VAC 50Hz**
8 VDC	**100 VDC**	**42 VAC 50Hz**	**415 VAC 50Hz**
12 VDC	**110 VDC**	**48 VAC 50Hz**	
14 VDC	**120 VDC**	**57 VAC 50Hz**	**24 VAC 60Hz**
18 VDC	**127 VDC**	**60 VAC 50Hz**	**42 VAC 60Hz**
20 VDC	**135 VDC**	**63 VAC 50Hz**	**110-115 VAC 60Hz**
24 VDC	**136 VDC**	**66 VAC 50Hz**	**215 VAC 60Hz**
28 VDC	**140 VDC**	**100 VAC 50Hz**	**220 VAC 60Hz**
30-32 VDC	**220 VDC**	**110-115 VAC 50Hz**	**230-240 VAC 60Hz**
36 VDC	**240 VDC**	**120 VAC 50Hz**	**380 VAC 60Hz**
42 VDC	**250 VDC**	**127 VAC 50Hz**	
60 VDC		**220-230 VAC 50Hz**	

SERVING SAFETY

Miniature power relays

The miniature power C-relays can be used in both AC and DC voltage networks. The C-relays are able to switch resistive and also inductive loads, depending on the options included.

CU - I/J

Miniature, current coil
6 A, 1 C/O

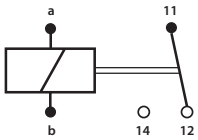
Industrial applications, switching of AC & DC voltage, resistive and loads.

- Plug in (CU) or PCB (CP)
- Miniature
- 1 C/O contact
- DC or AC coil
- Cadmium free contacts
- Equiped with keying

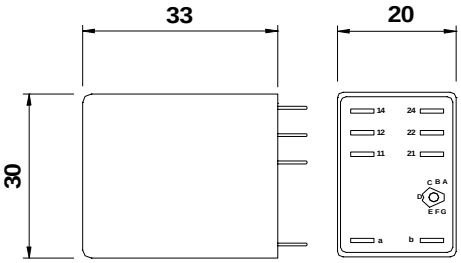
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement
Smitt-style

Connection diagram



Dimensions



Most common types

CU-J = AC current coil

CU-J22	0.005 AAC 50/60 Hz	334946400
CU-J28	0.01 AAC 50/60 Hz	334946500
CU-J50	0.12 AAC 50/60 Hz	334945800
CU-J58	0.25 AAC 50/60 Hz	334945600
CU-J66	0.60 AAC 50/60 Hz	334945400
CU-J70	1.00 AAC 50/60 Hz	334945300
CU-J74	1.50 AAC 50/60 Hz	334945200
CU-J78	2.40 AAC 50/60 Hz	334945100

CU-I = DC current coil

CU-I32	0.015 ADC	334940960
CU-I42	0.05 ADC	334940950
CU-I50	0.12 ADC	334640800
CU-I58	0.25 ADC	334640600
CU-I70	1.0 ADC	334940300
CU-I74	1.5 ADC	334940200
CU-I78	2.4 ADC	334940100
CU-I83	4.4 ADC	334941001

Other voltages on request.

For more types check your local sales office

Contact specifications

Contact material	Ag + 0.2 µm Au
Number & configuration	1 C/O
Rated continuous current	6 A
Breaking capacity AC1	2.6 A / 250 V
Breaking capacity DC1	300 mA / 300 V
Max. make current	15 A
Max. switching voltage AC/DC	250 VDC / 250 VAC
Min. switched voltage	12 V
Min. switched current	10 mA

Coil specifications

Nominal curent	CU-I	0.072...4.4 ADC
	CU-J	0.072...2.4 AAC
Operating range	CU-I	0.4...1.2 I_{nom}
	CU-J	0.4...1.5 I_{nom}

Technical data

Mechanical life cycles	10×10^6
Dielectric strength, coil-contact	4000 VAC
Isolation class	C 250
Pick up time DC/AC	15 ms
Drop-out time DC/AC	3 ms
Ambient temperature	-25 °C...+55 °C
Weight	40 g
Dimensions	20 x 30 x 33 mm
Protection category	IP40
Options	E, 6 µm gold plated contacts
Remarks	AC coil: 50/60 Hz

CU - G/W

Miniature
6 A, 2 C/O (weld-no-transfer)

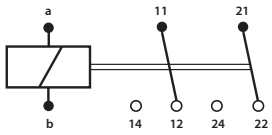
Heavy duty miniature power relays for demanding applications, switching of AC & DC voltages, resistive and inductive loads.

- Plug in (CU) or PCB (CP)
- Miniature
- 2 C/O contacts
- DC or AC coil
- Flash barrier
- Cadmium free contacts
- Equiped with keying

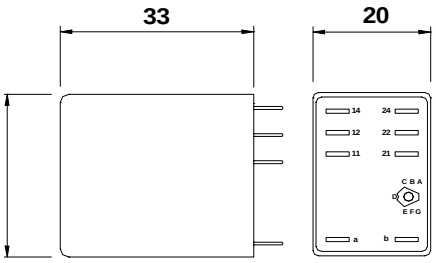
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement
Smitt-style

Connection diagram



Dimensions



Contact specifications

Contact material	Ag + 0.2 µm Au
Number & configuration	2 C/O
Rated continuous current	6 A
Breaking capacity AC1	2.6 A / 250 V
Breaking capacity DC1	300 mA / 300 V
Max. make current	15 A
Max. switching voltage AC/DC	300 VDC / 250 VAC
Min. switched voltage	12 V
Min. switched current	10 mA

Coil specifications

Nominal curent	U_n DC	5...93 VDC
	U_n AC	24...240 VAC
Operating range		0.8...1.1 Un / 0.7...1.1 Un

Technical data

Mechanical life cycles	30 x 10^6
Dielectric strength, coil-contact	3500 VAC
Isolation class	C 250
Pick up time DC/AC	15 / 10 ms
Drop-out time DC/AC	4 / 8 ms
Ambient temperature	-25 °C...+55 °C
Weight	40 g
Dimensions	20 x 30 x 33 mm
Protection category	IP40
Options	E, 6 µm gold plated contacts
Remarks	AC coil: 50/60 Hz

Most common types

CU-G = DC coil

CU-G20	110 VDC	617007113
CU-G20	125 VDC	617007115
CU-G26	48 VDC	617007112
CU-G32	24 VDC	617007106

CU-W = AAC coil

CU-W34	48 VAC 50/60 Hz	333617304
CU-W22	220 VAC 50/60 Hz	333617304

Other voltages on request.

For more types check your local sales office

CU - B/C

High DC breaking capacity
8 A, 2 C/O (weld no transfer)

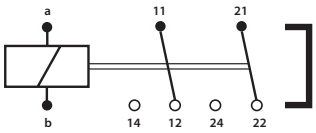
Heavy duty miniature power relays for demanding applications, switching of AC & DC voltages, resistive and / or inductive loads. integrated magnetic arc blow-out function.

- Plug in (CU) or PCB (CP)
- Miniature
- 2 C/O contacts
- DC or AC coil
- Flash barrier
- Magnetic arc blowout
- Cadmium free contacts
- Equiped with keying

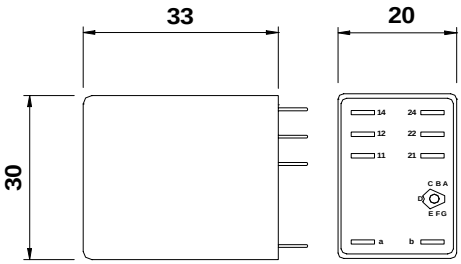
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement
Smitt-style

Connection diagram



Dimensions



Contact specifications

Contact material	Ag
Number & configuration	2 C/O
Rated continuous current	8 A
Breaking capacity AC1	2.6 A / 250 V
Breaking capacity DC1	300 mA / 300 V
Max. make current	10 A
Max. switching voltage AC/DC	300 VDC / 250 VAC
Min. switched voltage	12 V
Min. switched current	10 mA

Coil specifications

Nominal curent	U_n DC	6...125 VDC
	U_n AC	24...240 VAC
Operating range		0.8...1.1 U_n

Technical data

Mechanical life cycles	CU-B	10 x 10^6
	CU-C	5 x 10^6
Dielectric strength, coil-contact		4000 VAC
Isolation class		C 250
Pick up time DC/AC		12 / 11 ms
Drop-out time DC/AC		5 / 12 ms
Ambient temperature		-25 °C...+55 °C
Weight		40 g
Dimensions		20 x 30 x 33 mm
Protection category		IP40
Remarks		AC coil: 50/60 Hz

Most common types

CU-B = DC coil

CU-B48	6 VDC	330220100
CU-B42	12 VDC	330220200
CU-B36	24 VDC	330220300
CU-B30	48 VDC	330220400
CU-B28	60 VDC	330220500
CU-B23	110 VDC	330220600
CU-B22	125 VDC	330220702

CU-C = AC coil

CU-C48	12 V 50/60 Hz	330220800
CU-C42	24 V 50/60 Hz	330220900
CU-C35	48 V 50/60 Hz	330221100
CU-C28	110 V 50/60 Hz	330221300
CU-C22	220 V 50/60 Hz	330221400

Other voltages on request.

For more types check your local sales office

SERVING SAFETY

CU - A/D

Miniature heavy duty
6 A, 1 C/O 1 N/O (weld no transfer)

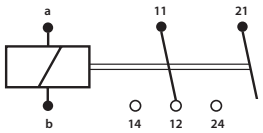
Heavy duty miniature power relays for demanding applications, switching of AC & DC voltages, resistive and / or inductive loads. Equipped with non welding contacts. Extreme low power consumption.

- Plug in (CU) or PCB (CP)
- Miniature
- 1 C/O 1 N/O contact
- DC or AC coil
- Flash barrier
- Cadmium free contacts
- Equiped with keying

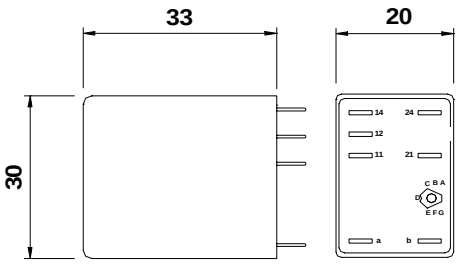
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement
Smitt-style

Connection diagram



Dimensions



Contact specifications

Contact material	Ag + 0.2 µm Au
Number & configuration	1 C/O 1 N/O
Rated continuous current	6 A
Breaking capacity AC1	2.6 A / 250 V
Breaking capacity DC1	300 mA / 300 V
Max. make current	15 A
Max. switching voltage AC/DC	300 VDC / 250 VAC
Min. switched voltage	12 V
Min. switched current	10 mA

Coil specifications

Nominal curent	U_n DC	6...48 VDC
	U_n AC	24...180 VAC
Operating range	CU-A	0.75...1.1 U_n
	CU-D	0.85...1.1 U_n
Power consumption	CU-A	0.23...0.8 VA
	CU-D	0.1 W

Technical data

Mechanical life cycles	10 x 10^6
Dielectric strength, coil-contact	4000 VAC
Isolation class	C 250
Pick up time DC/AC	11 / 15 ms
Drop-out time DC/AC	7 / 3 ms
Ambient temperature	-25 °C...+55 °C
Weight	40 g
Dimensions	20 x 30 x 33 mm
Protection category	IP40
Options	E, 6 µm gold plated contacts
Remarks	AC coil: 50/60 Hz

Most common types

CU-A = AC coil

CU-A38	24 VAC 50/60 Hz	334920900
CU-A36	30 VAC 50/60 Hz	334921500
CU-A32	48 VAC 50/60 Hz	334921000
CU-A26	100 VAC 50/60 Hz	334921100
CU-A22	150 VAC 50/60 Hz	334921200
CU-A20	180 VAC 50/60 Hz	334921700

CU-D = DC coil

CU-D38	6 VDC	334920100
CU-D32	12 VDC	334920300
CU-D26	24 VDC	334920600
CU-D20	48 VDC	334921400

Other voltages on request.

For more types check your local sales office

CU - U/V

Safety critical applications
8 A, 1 C/O DM/DB

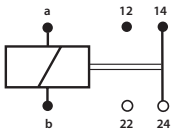
The CU-U/V is a safety relay used in places where a safe separation between coil and contact circuit is required. The relay, combined with screw socket V12, is used in applications in gas fired installations according to CEE 15/2e edition & approved by KEMA. Equipped with 1 double interrupting change-over contact. Also available is print relay: CP-U.

- Plug in (CU) or PCB (CP)
- Miniature
- 1 DM/DB contact
- DC or AC coil
- Flash barrier
- Cadmium free contact
- Equiped with keying

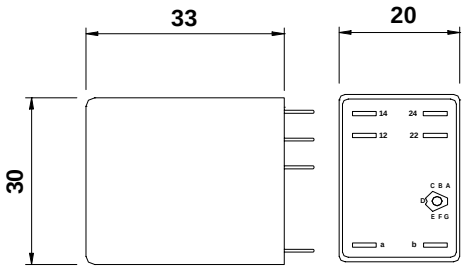
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement
Smitt-style

Connection diagram



Dimensions



Contact specifications

Contact material	Ag + 0.2 µm Au
Number & configuration	1 DM-DB
Rated continuous current	8 A
Max. make current	15 A
Max. switching voltage	300 VDC / 250 VAC
Min. switched voltage	18 V
Min. switched current	20 mA

Coil specifications

Nominal voltage	U_n DC	6...125 VDC
	U_n AC	24...240 VAC
Operating range	CU-U	0.8...1.25 U_n
	CU-V	0.7...1.1 U_n

Technical data

Mechanical life cycles	30 x 10^6
Dielectric strength, coil-contact	4500 VAC
Isolation class	C 250
Pick up time DC/AC	15 / 8 ms
Drop-out time DC/AC	4 / 8 ms
Ambient temperature	-25 °C...+55 °C
Weight	40 g
Dimensions	20 x 30 x 33 mm
Protection category	IP40
Remarks	AC coil: 50/60 Hz Humidity max 90%

Most common types

CU-U = DC coil

CU-U44	6 VDC	333610100
CU-U38	12 VDC	333610200
CU-U32	24 VDC	333610300
CU-U26	48 VDC	333610400
CU-U24	60 VDC	333610500

CU-V = AC coil

CU-V41	24 VAC, 50/60 Hz	333617100
CU-V36	42 VAC, 50/60 Hz	333617200
CU-V22	220 VAC, 50/60 Hz	333617300

Other voltages on request.

For more types check your local sales office

SERVING SAFETY

KCS

Latching, mechanical
6 A 2 C/O

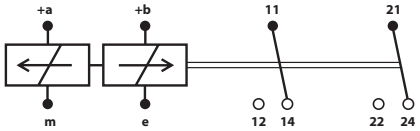
Heavy duty latching / bistable relay for demanding applications. Equipped with magnetic latch (permanent magnet). Due to pulse activation less heat dissipation and energy consumption than instantaneous relays.

- 2 C/O contacts
- DC coil
- Flash barrier
- Weld no transfer contacts
- Cadmium free contacts
- 2.8 x 0.8 faston connections
- Not plug-in

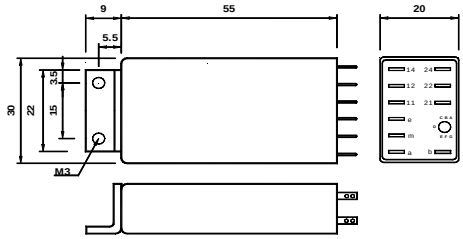
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement
Smitt-style

Connection diagram



Dimensions



Contact specifications

Contact material	Ag + 0.2 µm Au
Number & configuration	2 C/O
Rated continuous current	6 A
Max. make current	15 A
Max. switching voltage	300 VDC / 250 VAC
Min. switched voltage	12 V
Min. switched current	10 mA

Coil specifications

Nominal voltage	U_n DC	12...110 VDC
Power consumption		1.1 W
Operating range		7...1.25 U_n

Technical data

Mechanical life cycles	30 x 10^6
Dielectric strength, coil-contact	300 VAC
Isolation class	C 250
Pick up time DC/AC	25 ms
Ambient temperature	-25 °C...+70 °C
Weight	68 g
Dimensions	20 x 30 x 55 mm
Protection category	IP40

Available types
Check your local sales office

For more types check your local sales office

V10 & V11

Surface / wall
Screw terminals

For heavy duty, industrial applications, space saving design. Installation and replacement of plug-in relays is made easy and cost saving. No maintenance is required for the user.

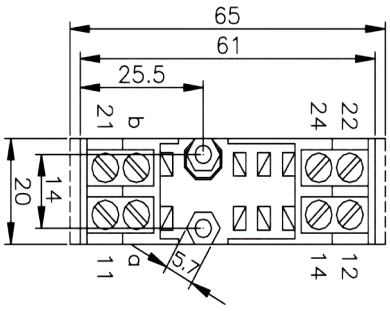
The V10 & V11 relay socket has one scew terminal per relay contact suitable for wires up to 2.5 mm². The V11 is equiped with internal back EMF diode.

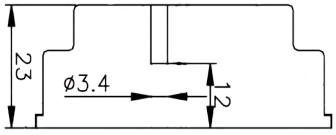
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810

Features
- Sturdy screw terminals
- Surface/wall mounting
- Suitable for 35 mm rail mouting with A109 rail clip (order separate)
- Suitable for all CU series power relays
- Wires up to 2.5 mm² per connection terminal
- Bifurcated female receiver for tight grip relay pin

Benefits
- Proven reliable
- Long term availability
- Easy to maintain
- Low life cycle cost
- No maintenance

Dimensions





Specifications

Suitable for	All CU relays
Contact rating	8 A (AC1) IEC 60947
Mounting	Surface / wall
Max. ambient temperature	80 °C
Weight	31 g
Dimensions	65 x 20 x 23 mm
Material	Polyester
Socket contacts	Screw terminals
Wire diameter	2.5 mm² maximum

Ordering codes

V10	Socket	338001000
V11	Socket + diode	338001100
V11X	Socket + reversed diode	338001101

V12 & V13

Surface / wall
Screw terminals

For heavy duty, industrial applications, space saving design. Installation and replacement of plug-in relays is easy and cost saving. No maintenance is required for the user.

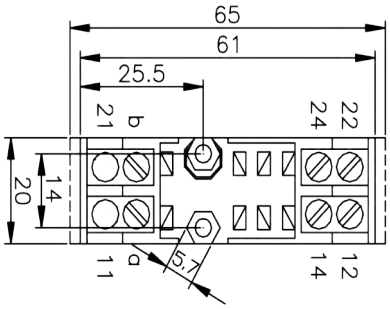
The V12 & V13 relay socket is only suitable for the CU-V and CU-U relays. Has no connection for contacts 11 & 12 and is equipped with screw terminals suitable for wires up to 2.5 mm². The V13 is equiped with a LED and internal back EMF diode.

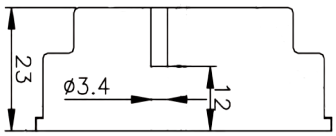
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810

Features
- Sturdy screw terminals
- V13 LED and internal back EMF diode
- Surface/wall mounting
- Suitable for 35 mm rail mouting with A109 rail clip (order separate)
- Suitable for CU-V & CU-U relays
- Wires up to 2.5 mm² per connection terminal
- Bifurcated female receiver for tight grip relay pin

Benefits
- Proven reliable
- Long term availability
- Easy to maintain
- Low life cycle cost
- No maintenance

Dimensions





Specifications

Suitable for	All CU-U & CU-V relays
Contact rating	8 A (AC1) IEC 60947
Mounting	Surface / wall
Max. ambient temperature	80 °C
Weight	31 g
Dimensions	65 x 20 x 23 mm
Material	Polyester
Socket contacts	Screw terminals
Wire diameter	2.5 mm² maximum

Ordering codes

V12	Socket	338001300
V13	Socket + diode	Depending of coil voltage C-relay

V17 & V17-D

Universal
Spring terminals

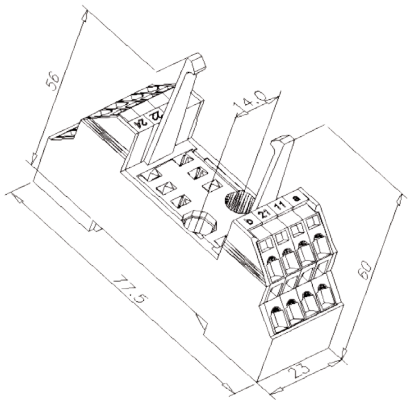
For heavy duty, industrial applications, space saving design. Installation and replacement of plug-in relays is made easy and cost saving. No maintenance is required for the user.

The V17 & V17-D relay socket has spring terminals. The V17-D is equipped with a diode.

Also available with double zener (Q1-Q5)

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Dimensions



Features
- Spring terminals
- 35 mm rail mounting
- Suitable for all CU power relays
- Bifurcated female receiver for tight grip relay pin

Benefits
- Proven reliable
- Long term availability
- Easy to maintain
- Low life cycle cost
- No maintenance

Specifications

Suitable for	All CU relays
Contact rating	8 A (AC1) IEC 60947
Mounting	35 mm rail
Max. ambient temperature	80 °C
Weight	50 g
Dimensions	78 x 23 x 60 mm
Material	Polyamide 66 / 30% glass
Socket contacts	Spring terminals
Wire diamter	2.5 mm^2 maximum

Ordering codes

V17	Socket	338001400
V17-D	Socket + diode	338001401

V14

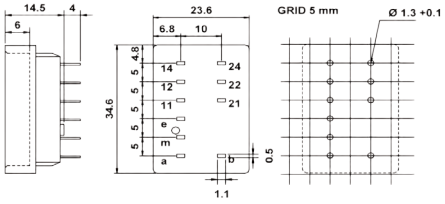
PCB
Soldering

For heavy duty, industrial applications, space saving design. Installation and replacement of plug-in relays is made easy and cost saving. No maintenance is required for the user.

The V14 relay socket has PCB soldering connections.

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Dimensions



Features
- PCB soldering connections
- PCB mounting

Benefits
- Proven reliable
- Long term availability
- Easy to maintain
- Low life cycle cost
- No maintenance

Specifications

Suitable for	All CU relays
Contact rating	10 A (AC1) IEC 60947
Mounting	PCB soldering
Max. ambient temperature	80 °C
Weight	12 g
Dimensions	36 x 24 x 15 mm
Material	Polyester
Socket contacts	PCB soldering
Wire diameter	2.5 mm^2 maximum

Ordering code

V14	Ssocket	338200100

V18

Standards

EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

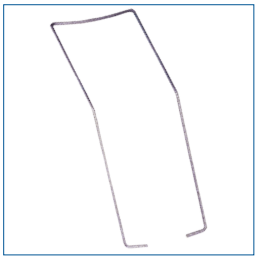
Connection diagram

Accessories

A109
35 mm rail clip

For sockets:
V10, V11, V12, V13

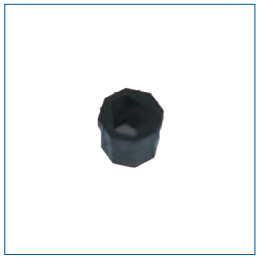
Article number:
339851100



A110
Relay retaining clip

For sockets:
V10, V11, V12, V13

Article number:
329851040



A104
Key receptable

For sockets:
V10, V11, V12, V13

Article number:
378690100

Example ordering scheme
C-relays

1. Relay		2. Type		3. Coil voltage
C U	-	G	-	110 VDC

This example represents a CU-G 110 VDC.
Description: C relay, plug-in, U_{nom}: 110 VDC, 2 C/O contacts.

1. Relay type

C

Relay pinning

U = Plug-in
P = PCB

2. Type

A	Wide range AC
B	High breaking capacity DC
C	High breaking capacity AC
D	Wide range DC
G	Standard DC
I	Current coil DC
J	Current coil AC
U	Safety critical DC
V	Safety / critical AC
W	Standard AC

3. Coil voltages

6 VDC	**12 VAC 50Hz**
12 VDC	**24 VAC 50Hz**
24 VDC	**42 VAC 50Hz**
42 VDC	**48 VAC 50Hz**
60 VDC	**60 VAC 50Hz**
72 VDC	**100 VAC 50Hz**
100 VDC	**120 VAC 50Hz**
110 VDC	**127 VAC 50Hz**
120 VDC	**230-240 VAC 50Hz**
127 VDC	**350 VAC 50Hz**
140 VDC	**380-400 VAC 50Hz**
220 VDC	**415 VAC 50Hz**
240 VDC	
250 VDC	

SERVING SAFETY

A- & B-relays

The A 400 and B 400 relay series are designed for safety critical applications. The relays are standard equipped with double make / double break contacts.

The B400 relays are also standard equipped with weld no transfer contacts (optional for the A400).

A 400

High DC breaking capacity
8 A, 4 C/O DM/DB

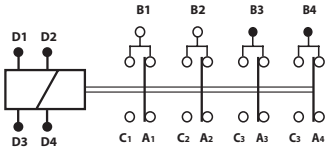
Suitable for safety-critical applications, switching of DC voltages, inductive loads.

- Plug-in
- 4 C/O contacts, double make / double break
- Weld-no-transfer contacts (optional)
- Keying in relay / socket
- LED indicator
- Cadmium free contacts
- 'Mors Smitt-style' pinning silver plated
- Coil protection

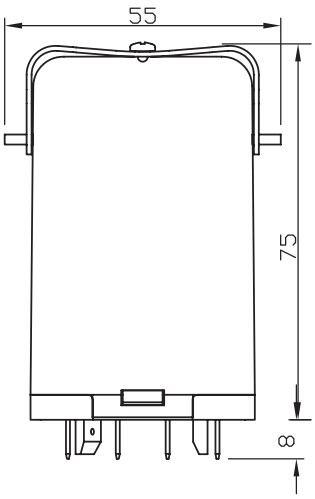
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement
Smitt-style

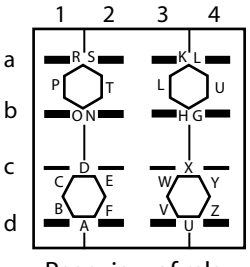
Connection diagram



Dimensions



Mechanical Keying



Rear view of relay

Contact specifications

Contact material	Ag
Number & configuration	4 C/O, DM-DB
Rated continuous current (AC1, IEC 60947)	8 A
Max. make current	20 A
Max. switching voltage	440 VDC
Min. switched voltage	24 V
Min. switched current	20 mA

Coil specifications

Nominal voltage	U_n DC	24...125 VDC
	U_n AC	115...220 VAC
Power consumption (DC/AC)		3 W / VA
Operating range		0.7...1.25 U_n

Technical data

Mechanical life cycles	100 x 10^6
Dielectric strength, coil-contact	2600 VAC
Isolation class	C 500
Pick-up time DC/AC	40 ms
Drop-out time DC/AC	15 ms
Ambient temperature	-40 °C...+80 °C
Weight	300 g
Dimensions	45 x 45 x 73 mm
Protection category	IP40
Options	C, weld no transfer
Remarks	Humidity max 93%, 40 °C for 4 days Salt mist max 5%, 35 °C for 4 days

For more types check your local sales office

SERVING SAFETY

B 400

High DC breaking capacity, safety-critical
12 A, 4 C/O DM/DB (weld no transfer)

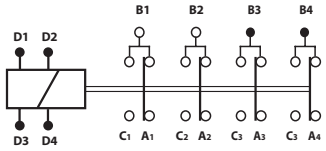
Suitable for safety and critical applications, switching of DC voltages, inductive loads.

- Plug in
- 4 C/O contacts, double make / double break
- Weld no transfer contacts
- Keying in relay / socket
- LED indicator
- Cadmium free contacts
- 'Mors Smitt-style' pinning tin plated
- Coil protection

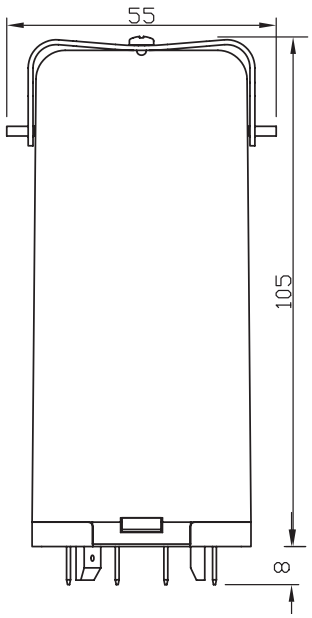
Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Pin arrangement
Smitt-style

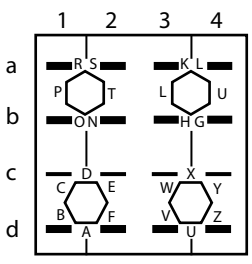
Connection diagram



Dimensions



Mechanical Keying



Rear view of relay

Contact specifications

Contact material	Ag
Number & configuration	4 C/O, DM-DB
Rated continuous current (AC1, IEC 60947)	12 A
Max. make current	30 A
Max. switching voltage	440 VDC
Min. switched voltage	24 V
Min. switched current	20 mA

Coil specifications

Nominal voltage	Un DC	12...700 VDC
	Un AC	127...220 VAC
Power consumption (DC/AC)		4 W / VA
Operating range		0.7...1.25 Un

Technical data

Mechanical life cycles	100 x 10^6
Dielectric strength, coil-contact	2600 VAC
Isolation class	C 660
Pick-up time DC/AC	55 ms
Drop-out time DC/AC	25 ms
Ambient temperature	-40 °C...+80 °C
Weight	450 g
Dimensions	45 x 45 x 102 mm
Protection category	IP40
Remarks	Humidity max 93%, 40 °C for 4 days Salt mist max 5%, 35 °C for 4 days

For more types check your local sales office

EA 102 A/B

Flush / panel
Faston terminals

For heavy duty, industrial applications, space saving design. Installation and replacement of plug-in relays is made easy and cost saving. No maintenance is required for the user.

The EA 102 A & EA 102 B socket is suitable for flush / panel mounting equipped with rear double faston 4.76 mm connection and locking bracket.

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Features
- Flush / panel
- Suitable for A- & B-relays
- Locking bracket

Benefits
- Proven reliable
- Long term availability
- Easy to maintain
- Low life cycle cost
- No maintenance

Specifications

Suitable for	A- & B- relays
Contact rating	12 A (AC1) IEC 60947
Mounting	Flush panel
Max. ambient temperature	80 °C
Weight	74 g
Dimensions	60 x 46 x 39 mm
Material	Polyester melamine
Socket contacts	Faston
Faston diameter	4.76 mm

Ordering codes

EA 102 A	A 400 socket	628001059
EA 102 B	B 400 socket	628001060

EA 103 AFD / BFD

35 mm rail
Screw terminals

For heavy duty, industrial applications, space saving design. Installation and replacement of plug-in relays is made easy and cost saving. No maintenance is required for the user.

The EA 103 AFD & EA 103 BFD socket is suitable for 35 mm rail mounting. Equipped with front screw terminal connections and a wire locking spring.

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Features
- Screw terminals
- 35 mm rail mounting
- Wire locking spring
- Suitable for A- & B-relays

Benefits
- Proven reliable
- Long term availability
- Easy to maintain
- Low life cycle cost
- No maintenance

Specifications

Suitable for	A- & B- relays
Contact rating	12 A (AC1) IEC 60947
Mounting	35 mm rail
Max. ambient temperature	80 °C
Weight	101 g
Dimensions	80 x 46 x 39 mm
Material	Polyester melamine
Socket contacts	Screw terminal
Wire diameter	2.5 mm^2 maximum

Ordering code

EA 103 AFD	A 400 socket	628001024
EA 103 BFD	B 400 socket	628001085

EA 104 A/B

Flush / panel
Faston terminals

For heavy duty, industrial applications, space saving design. Installation and replacement of plug-in relays is made easy and cost saving. No maintenance is required for the user.

The EA 104 A & EA 104 B socket is suitable for flush / panel mounting. Equipped with rear single faston 5 mm connections and locking bracket.

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Features
- Single faston 5 mm connection
- Flush / panel
- Suitable for A & B series power relays
- Locking bracket

Benefits
- Proven reliable
- Long term availability
- Easy to maintain
- Low life cycle cost
- No maintenance

Specifications

Suitable for	A- & B- relays
Contact rating	12 A (AC1) IEC 60947
Mounting	35 mm rail
Max. ambient temperature	80 °C
Weight	82 g
Dimensions	62 x 46 x 25 mm
Material	Polyester
Socket contacts	Single faston 5 mm
Faston diameter	5 mm

Ordering codes

EA 104 A	A 400 socket	628001253
EA 104 B	A 400 socket	628001037

EA 105 AFD / BFD

35 mm rail
Screw terminals

For heavy duty, industrial applications, space saving design. Installation and replacement of plug-in relays is made easy and cost saving. No maintenance is required for the user.

The EA 105 AFD & EA 105 BFD sockets are suitable for 35 mm rail mounting. Equipped with front single faston 4.76 mm connections and a wire locking spring.

Standards
EN 60255
EN 60947
EN 60947-5-1
IEC 61810
CE

Features
- Single faston 4.76 connection
- 35 mm rail mounting
- Suitable for A & B series power relays
- Wire locking spring

Benefits
- Proven reliable
- Long term availability
- Easy to maintain
- Low life cycle cost
- No maintenance

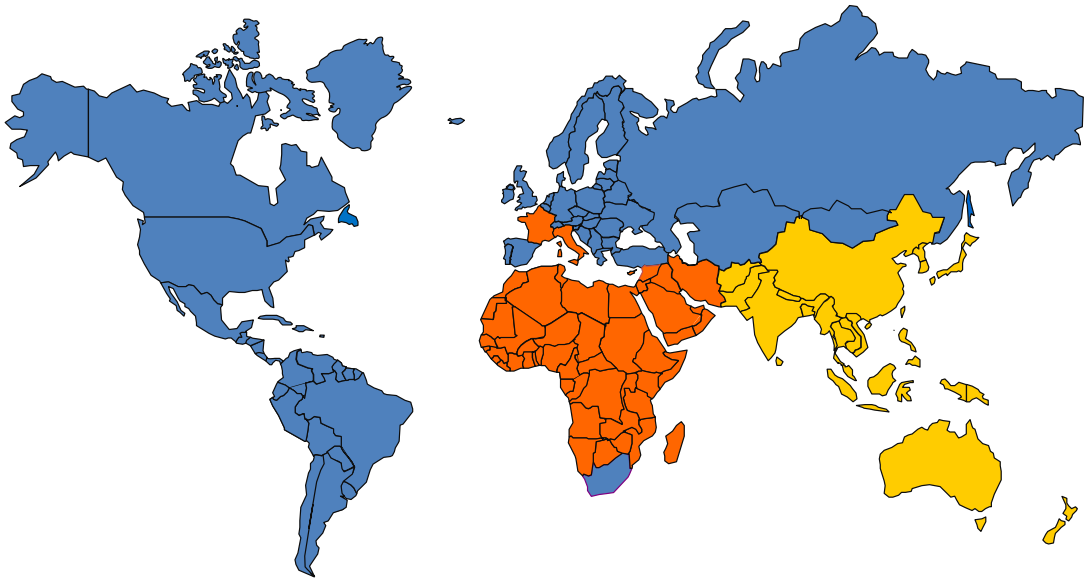
Specifications

Suitable for	A- & B- relays
Contact rating	12 A (AC1) IEC 60947
Mounting	35 mm rail
Max. ambient temperature	80 °C
Weight	93 g
Dimensions	96 x 46 x 30 mm
Material	Polyester
Socket contacts	Single faston 4.76
Faston diameter	4.76 mm

Ordering code

EA 105 AFD	A 400 socket	628001255
EA 105 BFD	B 400 socket	628001578

Mors Smitt's world wide sales network



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Mors Smitt brochures are also available on our website: www.morssmitt.com

Heavy duty relays

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Actus relays

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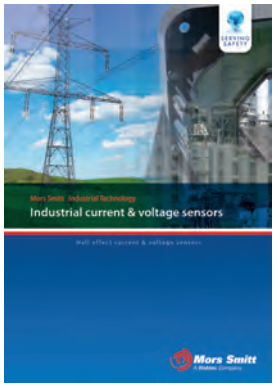

Industrial sensors

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Instruments 2

SERVING SAFETY

Mors Smitt Industrial Technology

Heavy duty relays

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