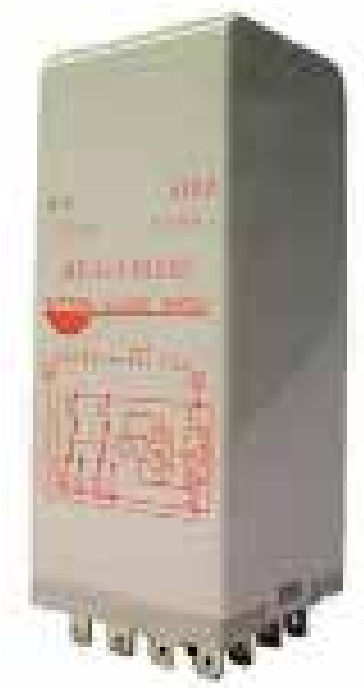
UB A400 relay - Voltage monitoring

Datasheet



Description

The voltage monitoring relay UB A400 opens auxiliary loads circuits when battery voltage becomes too low and puts them back in service when battery voltage recovers. A time delay of 20 seconds engages before opening a load circuit and a time delay of 2 seconds before putting back in service a load.

The plug-in design offers secure locking feature for maximum ease of maintenance (no wires need to be disconnected or other hardware removed for relay inspection or replacement). The resistance to impact and vibration is conform to standards in force for Railway Transported Equipment.

Positive mechanical keying of relay to socket is built into relay and socket during manufacture and terminal identifications are clearly marked on identification plate that is permanently attached to the relay.

The UB A400 relay is pluggable in the following sockets: EA 102 B, EA 102 BF, EA 103 BF, EA 104 B, EA 104 BF, EA 105 BF, EA 112 BF.

Application

The UB A400 relay is designed for voltage level sensing and used for example to monitor the battery load shedding.

Features

- Load shedding relay – 1 voltage level
- 4 C/O contacts, form Z, 5 A resistive
- Plug-in design with secure locking feature for maximum ease of maintenance
- -40 °C...+85 °C operating temperature

Benefits

- Proven reliable
- Long life cycle
- Easy to maintain and replace
- Low life cycle cost
- No maintenance

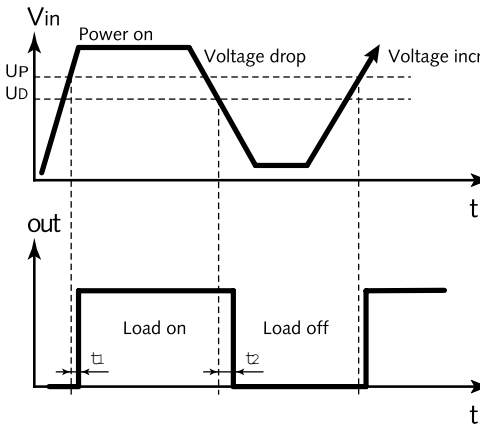
Railway compliancy

- NF F 62-002 Rolling stock - Instantaneous relays contacts and sockets
- NF F 16-101/102 Fire behaviour - Railway rolling stock
- EN 50155 Railway application - Electronic equipment used on rolling stock
- IEC 61373 Railway application - shock and vibration tests

UB A400 relay
Technical specifications

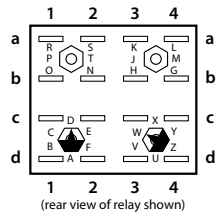
Functional and connection diagrams

Timing diagram



Relay pin correspondence

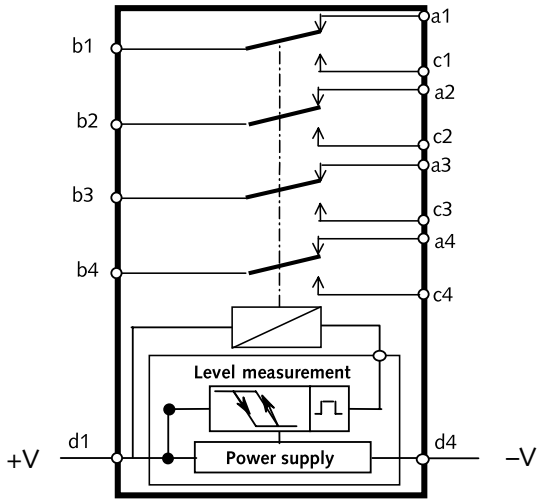
Relay pin correspondence



(rear view of relay shown)

Example: **DZ keying**

Connection diagram



UB A400 relay
Technical specifications

Input data

Keying	Unom (VDC)	Uoperating (VDC)	Level 1 (drop/increase) VDC
TBD (1)	24	15 / 30	TBD (1)
TBD (1)	36	25 / 48	TBD (1)
TBD (1)	48	30 / 64	TBD (1)
DZ	72	46 / 96	TBD (1)
EZ	110	77 / 137.5	90 / 100

(1) to be defined

Electrical characteristics

Operating voltage	24 VDC...110 VDC
Operating current	< 50 mA
Time constact	30 ms
Number of contacts	4 C/O, form Z
Contact material	Hard silver overlay laminated to copper
Nominal current	5 A
Contact resistance	10 mΩ max
Contact life	220 VDC, 1 A, resistive load > 7 x 10^6 operations
	220 VDC, 0.5 A, conductive load > 3 x 10^6 operations
Dielectric strength	1500 VAC, 1 min

Time delay characteristics

Time delay on voltage increase	0...20 s (t1) to be defined
Time delay on volage drop	0...20 s (t2) to be defined

Accuracy repeatability

Voltage level tolerance	± 1 V

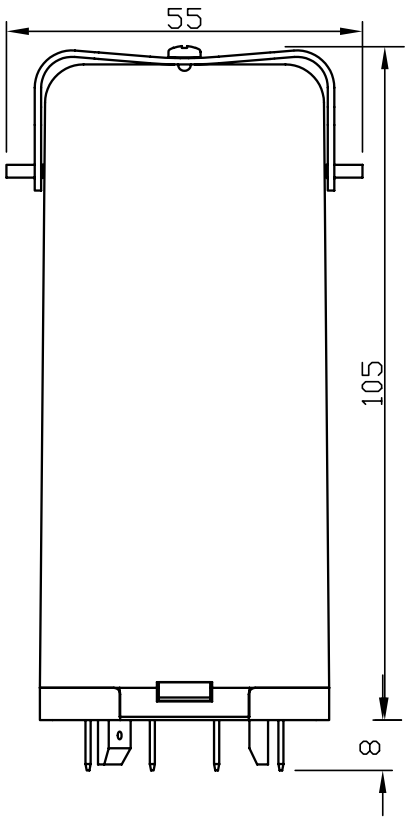
UB A400 relay
Technical specifications

Mechanical and environmental specifications

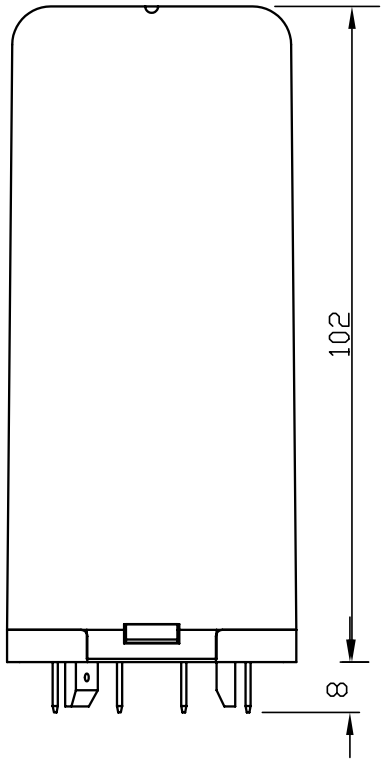
Operating temperature	-40 °C...+85 °C, IP50 (relay on socket)
Vibrations 3 axis	2 g / 10...120 Hz
Shocks	15 g / 11 ms
Operating position	Any attitude
Environment	NF F 20-600
Weight	450 g
Material	Polycarbonat (cover) / Polyester Melamine (base)
Fire and smoke	NF F 16-101/102

UB A400 relay
Technical specifications

Dimensions (mm)



Used
with locking brackets



Used
with wire locking spring

UB A400 relay
Mounting possiblities / sockets

EA 102 B

EA 103 BF

EA 104 B

EA 112 BF

Panel/flush mounting

EA 102 B	Locking bracket (905843), rear connection, double Faston 5 mm
EA 102 BF	Wire locking spring (926853), rear connection, single Faston 5 mm
EA 104 B	Locking bracket (905843), rear connection, single Faston 5 x 0.8 mm
EA 104 BF	Wire locking spring (926853), rear connection, single Faston 5 x 0.8mm
EA 112 BF	Wire locking spring (926853), rear connection, crimp contact

Surface/wall mounting

EA 103 BF*	Wire locking spring (926853), front connection, M3 screw 6.5 mm ring terminals ($2{,}5\ mm^2$)
EA 105 BF*	Wire locking spring (926853), front connection, single Faston 5 mm

* Mounting possibility on 35 mm rail EN 50022 by adding suffix D to the part number (see socket datasheet)

Note: Keying of relay to socket can be specified by adding the keying letters in the part number. See all details in the related socket datasheet.

UB A400 relay
Spare parts

Spare parts - order part numbers

(1)

LOCKING BRACKET

905846

(1)

SCREW FOR BRACKET

C927210

(1)

METAL STRAP (2)

P928060

(1)

METAL STRAP (4)

P928061

(1)

WIRE LOCKING SPRING

431906654

(1)

ROUND PLASTIC PLUGS

414928005

(2)

HEX. PLASTIC KEYS

414905678

(3)

LOCK PINS ASSY 2 SCREWS

906364

212903020

(1) Parts only for socket
(2) Parts for relay and socket
(3) Parts only for relay

UB A400 relay
Instructions

Installation

Install socket and connect wiring correctly according identification to terminals. Plug relay into socket. Reverse installation into socket not possible due to mechanical blocking by snap-lock.
Don't reverse polarity of coil connection. Relays can be mounted (tightly) next to each other and in any attitude.
Warning! Never use silicon near by relays

Operation

Before operating always apply voltage to coil to check correct operation.
Long term storage may corrode the silver on the relay pins. Just by plugging the relay into the socket, the female bifurcated receivers will automatically clean the corrosion on the pins and guarantee a good connection.
Do not use the relay in places with flammable gas as the arc generated from switching could ignite gasses.

Maintenance

Correct operation of relay can easily be checked as transparent cover gives good visibility on the moving contacts. When the relay doesn't seem to operate correct, please check presence of coil voltage. Use a multimeter. If LED is used, coil presence should be indicated. If coil voltage is present, but the relay doesn't work, a short circuit of suppression diode is possible (The coil connection was reversed). If relay doesn't work after inspection, please replace relay unit by a similar model. Send defective relay back to manufacturer. Normal wear and tear excluded.

UB A400 relay
Ordering scheme

Configuration:

UB	A400	72	DZ	F	1
1. Relay model	2. No. of contacts	3. Nominal voltage	4. Keying	5. Cover type	6. Language (test report)

This example represents a **UB A400 72 DZ F 1**.
Description: UB A400 relay, U_{nom}: 72 VDC, keying DZ, relay cover for wire locking spring, test report in English

1. Relay model

UB

2. Number of contacts

A400	4 C/O contact

3 & 4. Nominal voltage and keying

24 xx	24 VDC
36 xx	36 VDC
48 xx	48 VDC
72 DZ	72 VDC
110 EZ	110 VDC

xx = to be defined

5. Relay cover type

–	Relay cover with lock pins
F	Relay cover for wire locking spring

6. Language on test report

–	French
1	English
2	Spanish

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SERVING SAFETY

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