

UBC 200 relay - Voltage monitoring

Datasheet



Description

The voltage monitoring relay UBC 200 opens auxiliary loads circuits when battery voltage becomes too low and puts them back in service when battery voltage recovers. A time delay of several seconds (to be defined) engages before opening a load circuit and a time delay of several seconds (to be defined) 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 UBC 200 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 UBC 200 relay is designed for voltage level sensing and used for example to monitor the battery load shedding.

Features

- Voltage monitoring relay – 1 voltage level
- 2 C/O contacts, form C
- 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

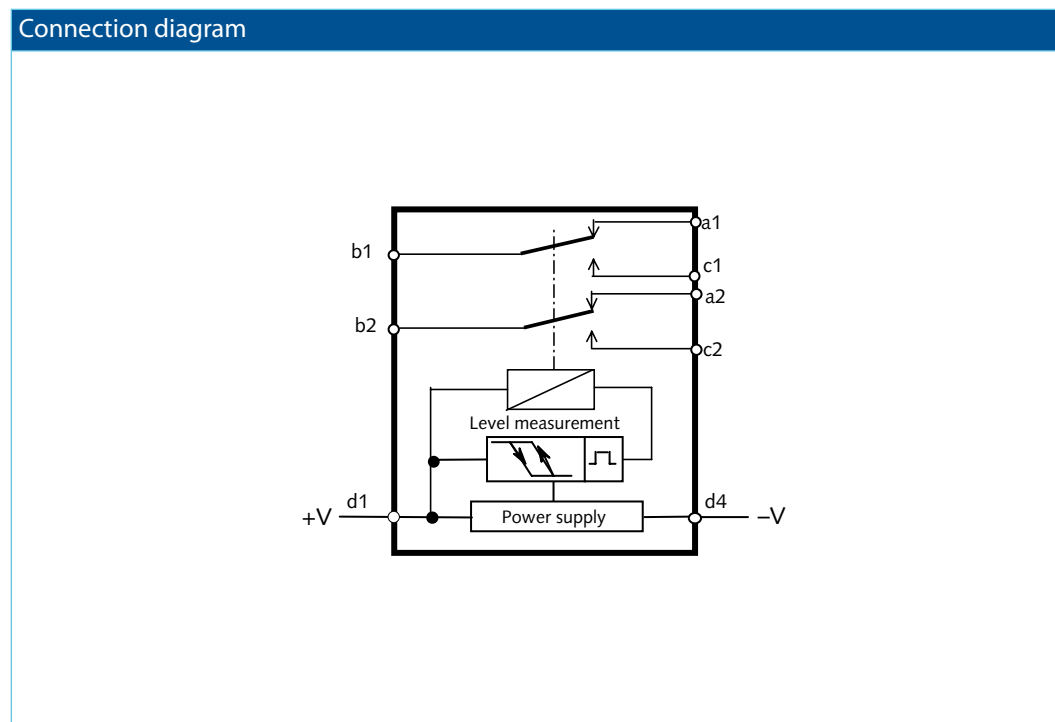
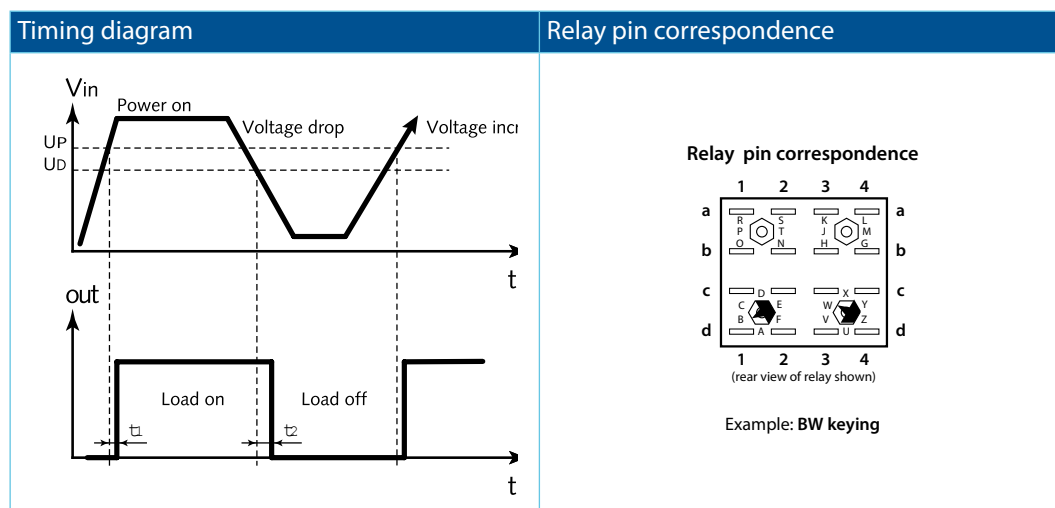


UBC 200 relay

Technical specifications



Functional and connection diagrams



UBC 200 relay

Technical specifications

Input data

Keying	U _{nom} (VDC)	U _{operating} (VDC)	Level 1 (drop/increase)
AW	24	16 / 36	TBD ⁽¹⁾
BW	36	25 / 45	TBD ⁽¹⁾
TBD ⁽¹⁾	48	33 / 60	TBD ⁽¹⁾
TBD ⁽¹⁾	72	48 / 90	TBD ⁽¹⁾
EV	110	75 / 138	TBD ⁽¹⁾

(1) to be defined

Contact data

Amount and type of contacts	2 C/O
Maximum continuous current	6 A (AC1 ; IEC 60947)
Maximum switching voltage	300 VDC (then max. current = 300 mA) 250 VAC (then max. current = 2.6 A)
Minimum switching voltage	12 V
Minimum switching current	10 mA
Maximum contact resistance	15 mΩ
Contact life	110 VDC, 0.5 A, L/R = 30 ms > 0.5 x 10 ⁶ operations
Material	Ag + 0.2 μm Au (gold flash is only for storage purpose)
Contact gap	0.3 mm
Contact force	> 20 cN

Note : contacts cannot have a different position (Forced contacts, Weld-no-transfer)

Electrical characteristics

Dielectric strength	EN 50155
Pole-Pole	IEC 60255-5 4 kV, 50 Hz
Cont-Coil	IEC 60077 3.5 kV, 50 Hz
Insulation between open contacts	1 kV ; 50 Hz ; 1 min
Pulse Withstanding	IEC 60255-5 5 kV (1.2/50 μs)

Time delay characteristics

Time delay on voltage increase	0...20 s max (τ1) to be defined
Time delay on voltage drop	0...20 s max (τ2) to be defined



UBC 200 relay

Technical specifications

Accuracy repeatability

Voltage level tolerance	± 1 V
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Mechanical and environmental specifications

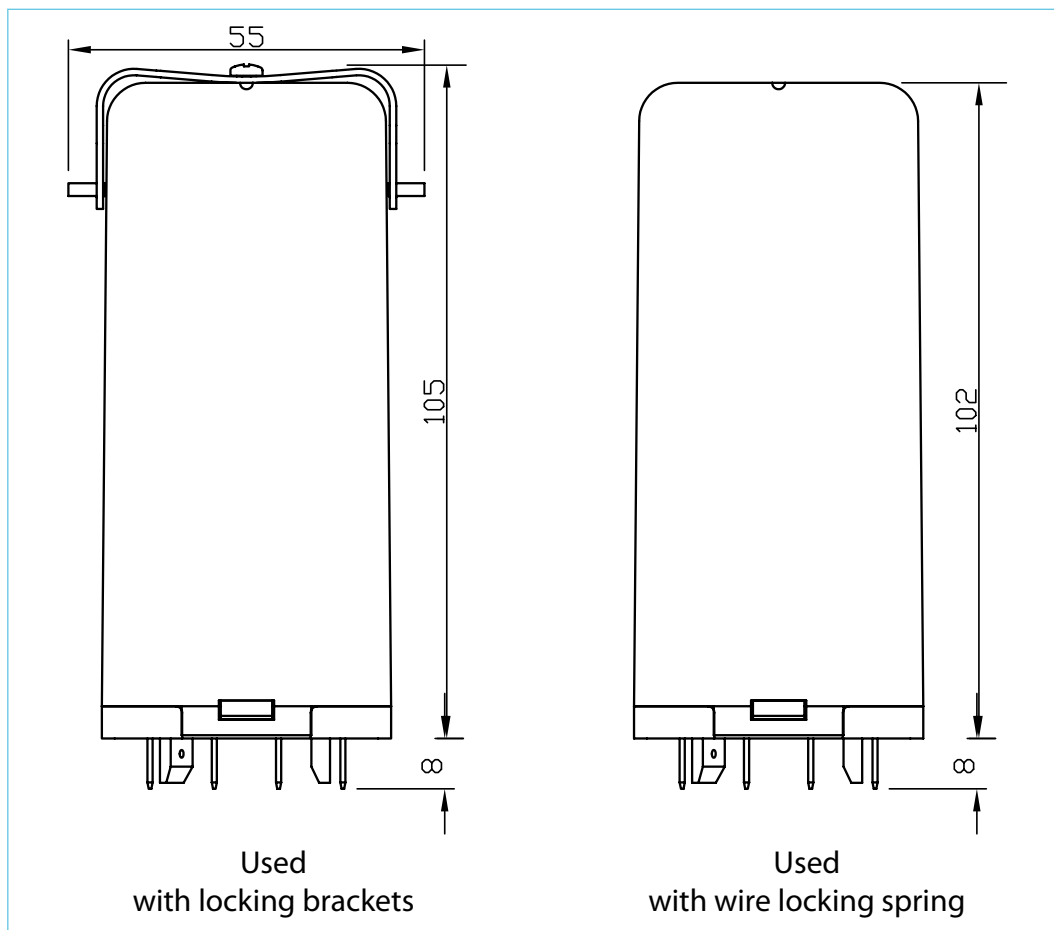
Vibrations 3 axis	2 g / 10...150 Hz
Shock	30 g / 11 ms
Mechanical life	10 million operations
Weight	450 g
Operating temperature	-40 °C...+85 °C
Humidity	93 % RH, 40 °C for 4 days
Salt mist	5 % NaCl, 35 °C for 4 days
Protection	IP50 (relay on socket)
Environment	NF F 20-600
Fire and smoke	NF F 16-101/102
Material	Polycarbonat (cover) / Polyester Melamine (base)



UBC 200 relay

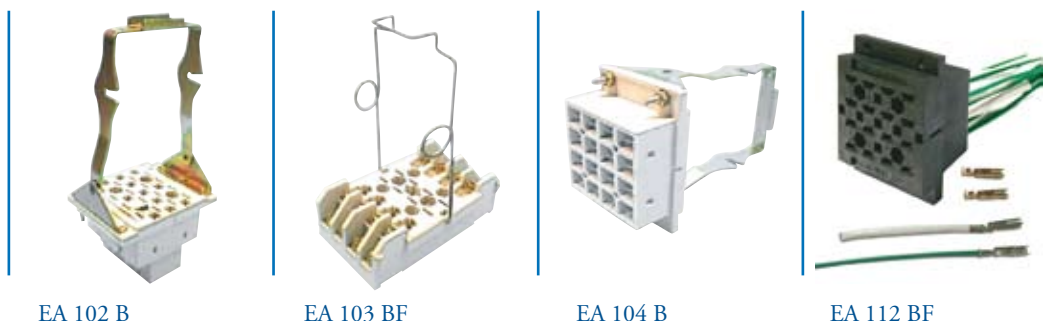
Technical specifications

Dimensions (mm)



UBC 200 relay

Mounting possibilities / sockets



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)





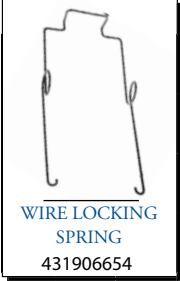



Note: Keying of relay to socket can be specified by adding the keying letters in the part number. See all details in the related socket datasheet.



UBC 200 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



UBC 200 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.



UBC 200 relay

Ordering scheme

Configuration:

UBC	200	24	AW	-	-	19.77/23.5	T1/10
1. Relay model	2. No. of contacts	3. Nominal voltage	4. Keying	5. Cover type	6. Language (test report)	7. Drop / increase voltage level	8. Time delay in seconds

This example represents a **UBC 200 24 19.77/23.5 T1/10**.

Description: UBC 200 relay, U_{nom} : 24 VDC, keying AW, relay cover with lock pins, test report in English, 19.77 VDC voltage drop level tripping, 23.5 VDC voltage increase level tripping, T1 time delay tripping of 10 seconds

1. Relay model

UBC

2. Number of contacts

200 2 C/O contacts

3 & 4. Nominal voltage and keying

AW	24 VDC
BW	36 VDC
XX	48 VDC
XX	72 VDC
EV	110 VDC

XX = to be defined

5. Relay cover type

-	Relay cover with lock pins
F	Relay cover forwire locking spring

6. Language on test report

-	French
1	English
2	Spanish

7. Drop / increase voltage level

Indicate drop voltage level (not below U operating)
Voltage increase voltage level (not above U operating)

8. Tripping time delay

-	No delay at tripping
T1/	time in seconds (not above 30 seconds)





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