



## Main

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range of product          | Advantys Telefast ABE7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Product or component type | Sub-base for plug-in relay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Sub-base type             | Output sub-base                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| [Us] rated supply voltage | 19...30 V conforming to IEC 61131-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Number of channels        | 16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Connections - terminals   | Screw type terminals, clamping capacity: 2 x 0.2...2 x 2.5 mm <sup>2</sup> AWG 24...14 solid<br>Screw type terminals, clamping capacity: 2 x 0.09...2 x 0.75 mm <sup>2</sup> AWG 28...20 flexible with cable end<br>Screw type terminals, clamping capacity: 1 x 0.14...1 x 2.5 mm <sup>2</sup> AWG 26...14 flexible without cable end<br>Screw type terminals, clamping capacity: 1 x 0.14...1 x 2.5 mm <sup>2</sup> AWG 26...12 solid<br>Screw type terminals, clamping capacity: 1 x 0.09...1 x 1.5 mm <sup>2</sup> AWG 28...16 flexible with cable end |

## Complementary

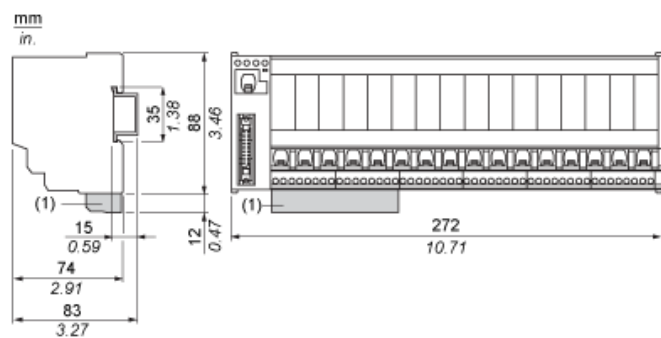
|                                        |                                                                                                                  |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------|
| Supply voltage type                    | DC                                                                                                               |
| Product compatibility                  | ABE7ACC21<br>ABR7S33<br>ABS7A3.<br>ABS7SC3..                                                                     |
| Status LED                             | 1 LED, green for power ON<br>1 LED per channel, green for channel status                                         |
| Polarity distribution                  | Polarity distribution contact common per 2 groups of 4 channels                                                  |
| Short circuit protection               | 1 A internal fuse, 5 x 20 mm, fast blow (PLC end)                                                                |
| Fixing mode                            | By screws on solid plate with fixing kit<br>By clips on 35 mm symmetrical DIN rail                               |
| Supply current                         | <= 1 A                                                                                                           |
| Voltage drop on power supply fuse      | 0.3 V                                                                                                            |
| Current per output common              | <= 16 A                                                                                                          |
| [Ui] rated insulation voltage          | 300 V between coil circuit/contact circuits conforming to IEC 60947-1<br>2000 V between terminals/mounting rails |
| [Uimp] rated impulse withstand voltage | 2.5 kV                                                                                                           |
| Installation category                  | II conforming to IEC 60664-1                                                                                     |
| Tightening torque                      | 0.6 N.m (with flat Ø 3.5 mm)                                                                                     |
| Product weight                         | 0.9 kg                                                                                                           |

## Environment

|                                       |                                                                                                      |
|---------------------------------------|------------------------------------------------------------------------------------------------------|
| Product certifications                | BV<br>CSA<br>DNV<br>GL<br>LROS (Lloyds register of shipping)<br>UL                                   |
| IP degree of protection               | IP2x conforming to IEC 60529                                                                         |
| Resistance to incandescent wire       | 750 °C, extinction time: < 30 s conforming to IEC 60695-2-11                                         |
| Shock resistance                      | 15 gn for 11 ms conforming to IEC 60068-2-27                                                         |
| Vibration resistance                  | 2 gn (f = 10...150 Hz) conforming to IEC 60068-2-6                                                   |
| Resistance to electrostatic discharge | 8 kV (air) conforming to IEC 61000-4-2 level 3<br>4 kV (contact) conforming to IEC 61000-4-2 level 3 |
| Resistance to radiated fields         | 10 V/m (26000000...1000000000 Hz) conforming to IEC 61000-4-3 level 3                                |

|                                       |                                          |
|---------------------------------------|------------------------------------------|
| Resistance to fast transients         | 2 kV conforming to IEC 61000-4-4 level 3 |
| Ambient air temperature for operation | -5...60 °C conforming to IEC 61131-2     |
| Ambient air temperature for storage   | -40...80 °C conforming to IEC 61131-2    |
| Pollution degree                      | 2 conforming to IEC 60664-1              |

## Dimensions

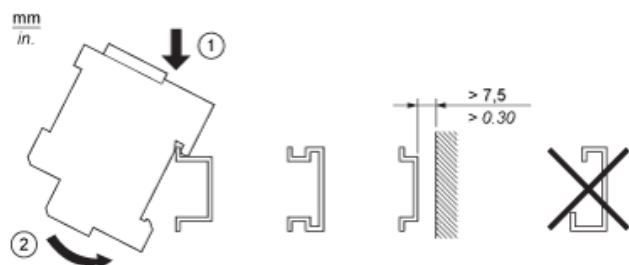


(1) ABE7BV10 / BV20, ABE7BV10E / BV20E

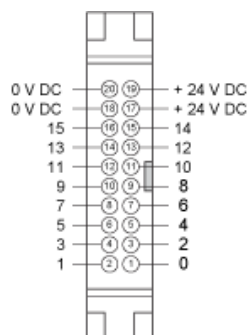
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Mounting

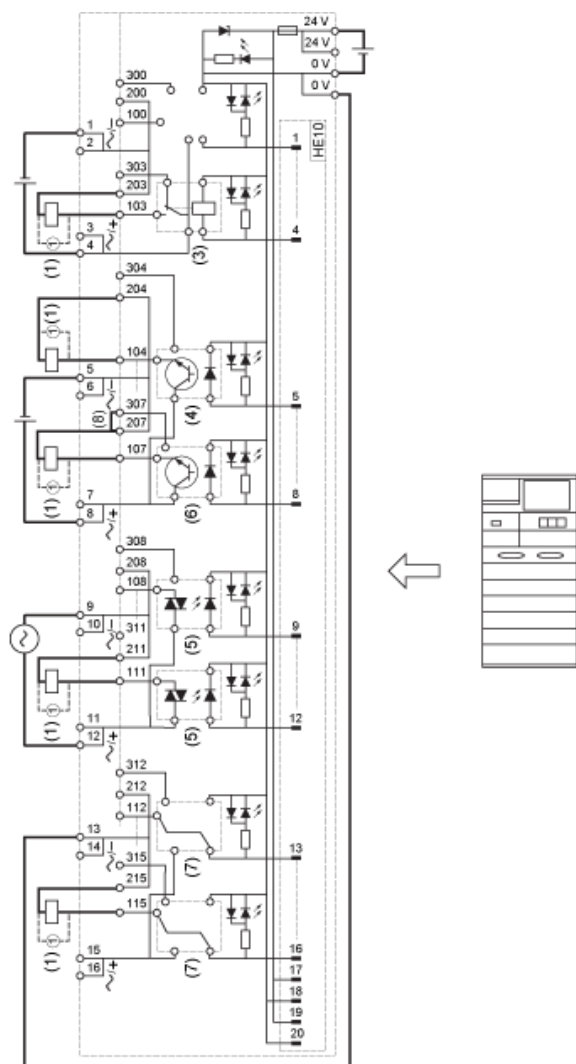
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## HE10 16 Channels



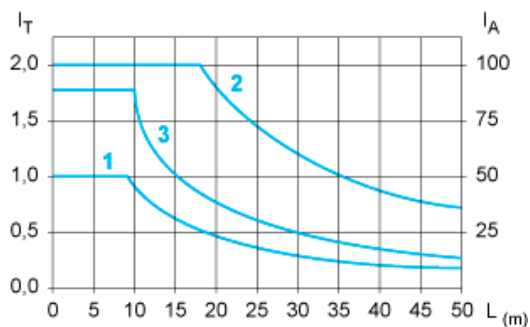
## Wiring Diagram



- (1) Inductive load
- (3) ABR7S33 (1 "OF" "DPDT")  $I_{th} = 10\text{ A}$  (supplied)
- (4) ABS7SC3E (5...48 VDC)  $I_{max.} = 1,5\text{ A}$  (not supplied)
- (5) ABS7SA3M (24...240 VAC)  $I_{max.} = 1,5\text{ A}$  (not supplied)
- (6) ABS7SC3BA (24 VDC)  $I_{max.} = 2\text{ A}$  (not supplied)
- (7) ABE7ACC21 (24 VDC)  $I_{max.} = 0,5\text{ A}$  (not supplied)
- (8) Shunt

## Curves for Determining Cable Type and Length According to the Current

### 16-channel Sub-base



L Cable length

$I_T$  Total current per sub base (A)

$I_A$  Average current per channel (mA)

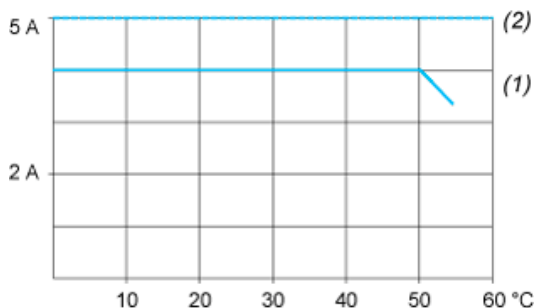
(1) TSXCDP••2 and ABFH20H••0 cables with c.s.a.  $0.08 \text{ mm}^2$  (AWG 28).

(2) TSXCDP••3 cables with c.s.a.  $0.34 \text{ mm}^2$  (AWG 22).

(3) Cables with c.s.a.  $0.13 \text{ mm}^2$  (AWG 26).

The curves are given for a voltage drop of 1 V in the cable. For n volts tolerance, multiply the length determined from the graph by n.

## Temperature Derating Curves



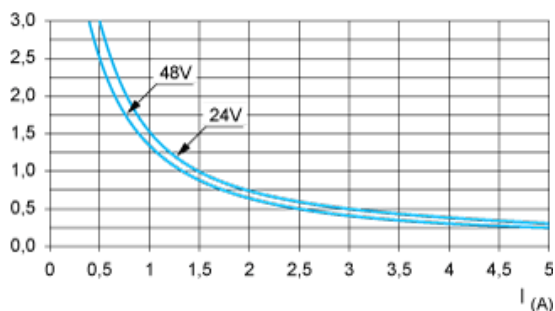
(1) 100 % of channels used

(2) 50 % of channels used

## Electrical Durability (in Millions of Operating Cycles) Conforming to IEC 60947-5-1

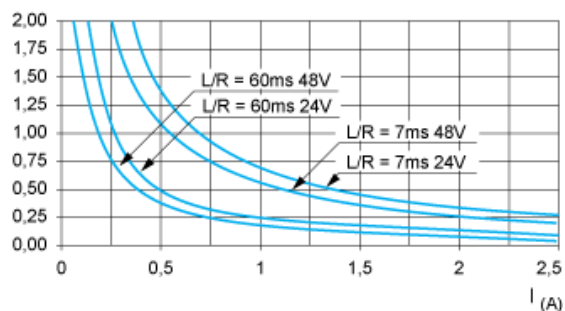
### DC Loads

DC12 curves



DC12control of resistive loads and of solid state loads isolated by optocoupler,  $I/R \leq 1 \text{ ms}$ .

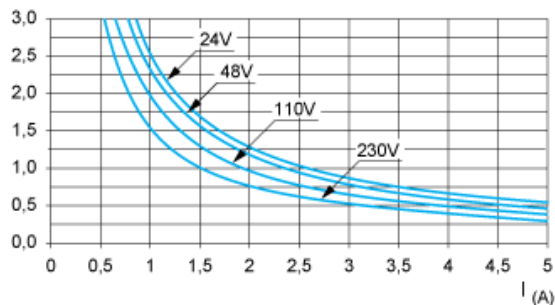
### DC13 curves



DC13switching electromagnets,  $L/R \leq 2 \times (U_e \times I_e)$  in ms,  $U_e$ : rated operational voltage,  $I_e$ : rated operational current (with a protective diode on the load, DC12 curves must be used with a coefficient of 0.9 applied to the number in millions of operating cycles)

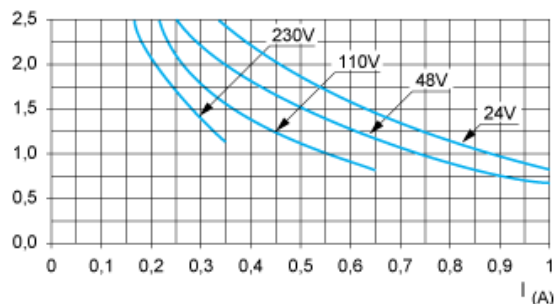
### AC Loads

#### AC12 curves



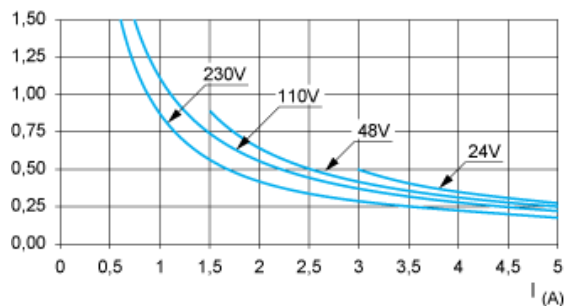
AC12control of resistive loads and of solid state loads isolated by optocoupler,  $\cos \phi \geq 0.9$ .

#### AC14 curves



AC14control of small electromagnetic loads  $\leq 72 \text{ VA}$ , make:  $\cos \phi = 0.3$ , break:  $\cos \phi = 0.3$ .

#### AC15 curves



AC15control of electromagnetic loads  $> 72 \text{ VA}$ , make:  $\cos \phi = 0.7$ , break:  $\cos \phi = 0.4$ .