

# Product data sheet

Specifications



## sub-base for plug-in relay ABE7 - 16 channels - relay 12.5 mm

ABE7P16T330

### Main

Range of product	Modicon 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, 1 x 0.09...1 x 1.5 mm <sup>2</sup> (AWG 28...AWG 16) flexible with cable end Screw type terminals, 1 x 0.14...1 x 2.5 mm <sup>2</sup> (AWG 26...AWG 12) solid Screw type terminals, 1 x 0.14...1 x 2.5 mm <sup>2</sup> (AWG 26...AWG 14) flexible without cable end Screw type terminals, 2 x 0.09...2 x 0.75 mm <sup>2</sup> (AWG 28...AWG 20) flexible with cable end Screw type terminals, 2 x 0.2...2 x 2.5 mm <sup>2</sup> (AWG 24...AWG 14) solid

### Complementary

Supply voltage type	DC
Product compatibility	ABE7ACC21 ABR7S33 ABS7SC3.. ABS7A3.
Status LED	1 LED per channel (green) channel status 1 LED (green) power ON
Polarity distribution	Volt-free
Short-circuit protection	1 A internal fuse, 5 x 20 mm, fast blow (PLC end)
Fixing mode	By clips (35 mm symmetrical DIN rail) By screws (solid plate with fixing kit)
Maximum supply current	1 A
Voltage drop on power supply fuse	0.3 V
Maximum current per output common	16 A
[Ui] rated insulation voltage	300 V coil circuit/contact circuits conforming to IEC 60947-1 2000 V 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 screwdriver
Product weight	0.9 kg

## Environment

<b>Product certifications</b>	DNV CSA GL UL EAC
<b>IP degree of protection</b>	IP2X conforming to IEC 60529
<b>Resistance to incandescent wire</b>	750 °C, extinction time <30 s conforming to IEC 60695-2-11
<b>Shock resistance</b>	15 gn for 11 ms conforming to IEC 60068-2-27
<b>Vibration resistance</b>	2 gn (f= 10...150 Hz) conforming to IEC 60068-2-6
<b>Resistance to electrostatic discharge</b>	4 kV (contact) level 3 conforming to IEC 61000-4-2 8 kV (air) level 3 conforming to IEC 61000-4-2
<b>Resistance to radiated fields</b>	10 V/m (26000000...1000000000 Hz) conforming to IEC 61000-4-3 level 3
<b>Resistance to fast transients</b>	2 kV level 3 conforming to IEC 61000-4-4
<b>Ambient air temperature for operation</b>	-5...60 °C conforming to IEC 61131-2
<b>Ambient air temperature for storage</b>	-40...80 °C conforming to IEC 61131-2
<b>Pollution degree</b>	2 conforming to IEC 60664-1

## Packing Units

<b>Unit Type of Package 1</b>	PCE
<b>Number of Units in Package 1</b>	1
<b>Package 1 Height</b>	8.500 cm
<b>Package 1 Width</b>	10.000 cm
<b>Package 1 Length</b>	29.200 cm
<b>Package 1 Weight</b>	792.000 g
<b>Unit Type of Package 2</b>	S03
<b>Number of Units in Package 2</b>	6
<b>Package 2 Height</b>	30.000 cm
<b>Package 2 Width</b>	30.000 cm
<b>Package 2 Length</b>	40.000 cm
<b>Package 2 Weight</b>	5.176 kg

## Offer Sustainability

<b>Sustainable offer status</b>	Green Premium product
<b>REACH Regulation</b>	<a href="#">REACH Declaration</a>
<b>EU RoHS Directive</b>	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
<b>Mercury free</b>	Yes
<b>China RoHS Regulation</b>	<a href="#">China RoHS declaration</a>
<b>RoHS exemption information</b>	<a href="#">Yes</a>
<b>Environmental Disclosure</b>	<a href="#">Product Environmental Profile</a>
<b>Circularity Profile</b>	<a href="#">End of Life Information</a>
<b>WEEE</b>	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

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**California proposition 65**

WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

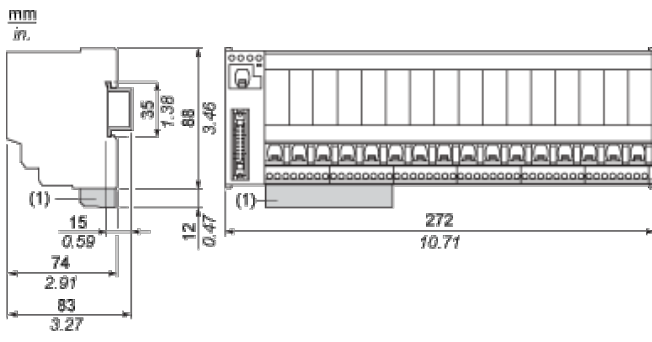
**Contractual warranty**

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Warranty 18 months

## Dimensions

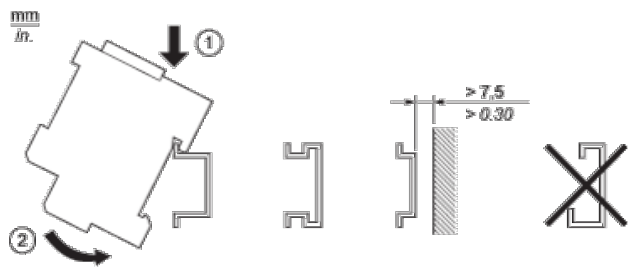
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(1) ABE7BV10 / BV20, ABE7BV10E / BV20E

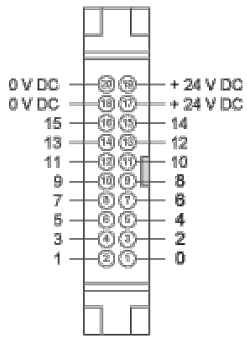
Mounting

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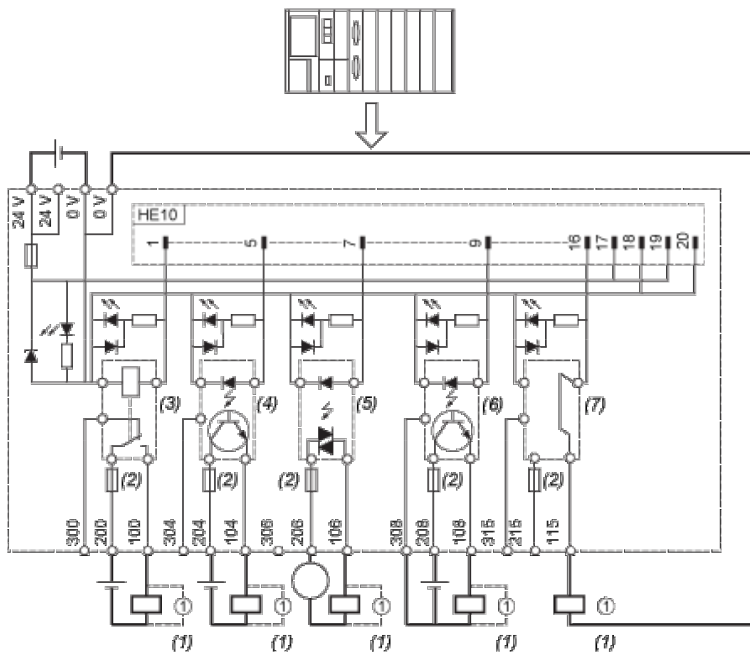


## HE10 16 Channels

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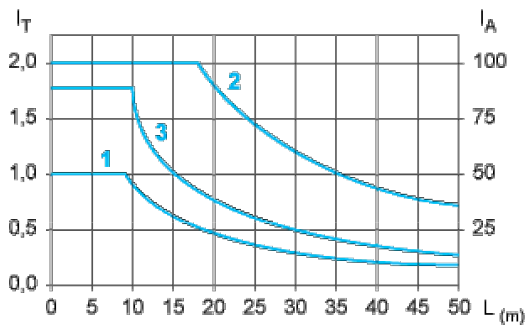
## Wiring Diagram



- (1) Inductive load
- (2) Fuse only for ABE7P16T334
- (3) ABR7S33 (1 "OF" "DPDT") Ith = 10 A (supplied)
- (4) ABS7SC3E (5...48 VDC) I<sub>max.</sub> = 1.5 A (not supplied)
- (5) ABS7SA3M (24...240 VAC) I<sub>max.</sub> = 1.5 A (not supplied)
- (6) ABS7SC3BA (24 VDC) I<sub>max.</sub> = 2 A (not supplied)
- (7) ABE7ACC21 (24 VDC) I<sub>max.</sub> = 0.5 A (not supplied)

Curves for Determining Cable Type and Length According to the Current

16-channel Sub-base



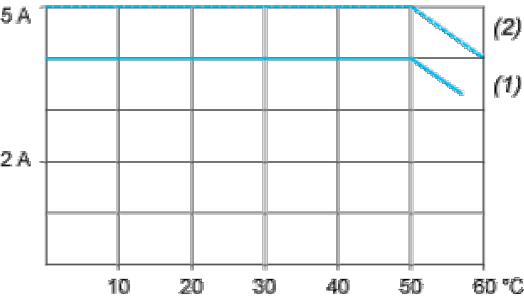
- L Cable length
- I<sub>T</sub> Total current per sub base (A)
- I<sub>A</sub> Average current per channel (mA)
- (1) TSXCDP••2 and ABFH20H••0 cables with c.s.a. 0.08 mm<sup>2</sup> (AWG 28).
- (2) TSXCDP••3 cables with c.s.a. 0.34 mm<sup>2</sup> (AWG 22).
- (3) Cables with c.s.a. 0.13 mm<sup>2</sup> (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

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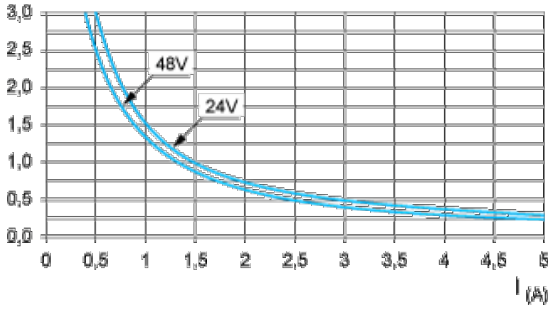


- (1) 100 % of channels used
- (2) 50 % of channels used

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

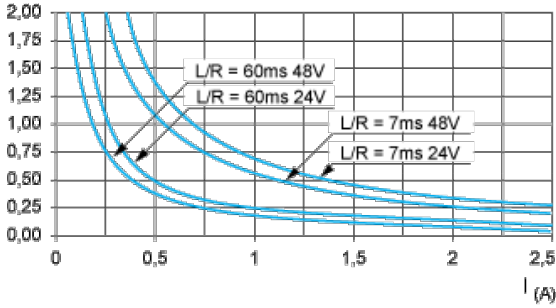
DC Loads

DC12 curves



DC12 control of resistive loads and of solid state loads isolated by optocoupler,  $I/R \leq 1$  ms.

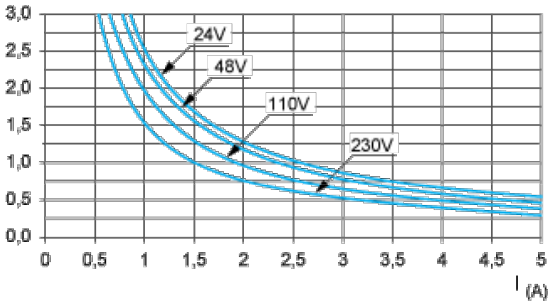
DC13 curves



DC13 Switching 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)

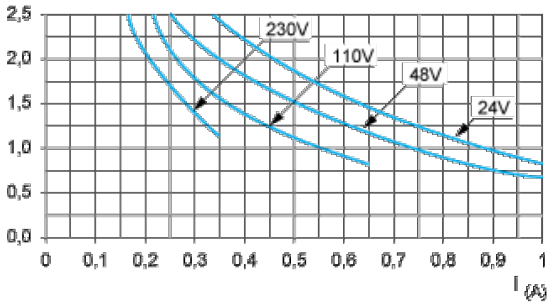
AC Loads

AC12 curves



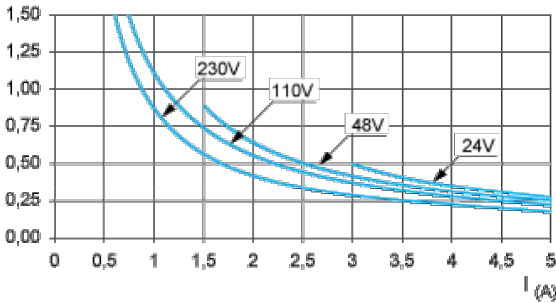
AC12 control of resistive loads and of solid state loads isolated by optocoupler,  $\cos \phi \geq 0.9$ .

AC14 curves



AC14 control of small electromagnetic loads  $\leq 72$  VA, make:  $\cos \phi = 0.3$ , break:  $\cos \phi = 0.3$ .

AC15 curves



AC15 control of electromagnetic loads  $> 72$  VA, make:  $\cos \phi = 0.7$ , break:  $\cos \phi = 0.4$ .

**Recommended replacement(s)**