



Main

Range of product	Modicon ABE7
Product or component type	Electromechanical output relay sub-base
[Us] rated supply voltage	24 V DC for PLC end
Number of channels	16
Connections - terminals	Spring terminal, 1 x 0.09...1 x 1.5 mm ² (AWG 28...AWG 16) flexible with cable end Spring terminal, 1 x 0.14...1 x 2.5 mm ² (AWG 26...AWG 12) solid Spring terminal, 1 x 0.14...1 x 2.5 mm ² (AWG 26...AWG 14) flexible without cable end

Complementary

Terminal block type	Removable
Supply voltage limits	30 V DC (PLC end)
Polarity distribution	Polarity distribution contact common per group of 8 channels
Protection type	Internal fuse 1 A 5 x 20 mm fast blow PLC end Adjustable by external fuse high breaking capacity preactuator end
Fixing mode	By clips (35 mm symmetrical DIN rail) By screws (solid plate with fixing kit)
Width	125 mm
Maximum current per output common	12 A
Current per channel	2 A for preactuator end
Minimum switching current	1 mA at ≥ 5 V
Drop-out voltage	2.4 V at 20 °C (PLC end)
Switching frequency	≤ 10 Hz ≤ 0.5 Hz
Threshold tripping voltage	19.2 V at 40 °C
Drop-out current	0.5 mA at 20 °C
Maximum power dissipation per channel in W	0.22 W (PLC end)
Contacts type and composition	1 NO for preactuator end
Maximum switching voltage	250 V AC 50/60 Hz conforming to IEC 60947-5-1 30 V DC conforming to IEC 60947-5-1
Number of channel per common	8
Electrical durability	500000 Cycles, maximum switching current: 200 mA at 24 V DC-13 10 ms (preactuator end) 500000 Cycles, maximum switching current: 400 mA at 230 V AC-15 (preactuator end) 500000 Cycles, maximum switching current: 600 mA at 230 V AC-12 (preactuator end) 500000 cycles, maximum switching current: 600 mA at 24 V DC-12 (preactuator end)
Electrical reliability	1e-008
Operating time	≤ 10 ms coil energisation and NO closing ≤ 6 ms coil de-energisation and NO opening
Contact bounce time	≤ 5 ms 1 NO
Operating rate in Hz	10 Hz no load 0.5 Hz at Ie
Mechanical durability	20000000 cycles
[Uimp] rated impulse withstand voltage	2.5 kV IEC 60947-1
[Ui] rated insulation voltage	2000 V

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Installation category	II conforming to IEC 60664-1
Tightening torque	0.6 N.m with flat Ø 3.5 mm screwdriver
Net weight	0.405 kg

Environment

Max immunity to microbreaks	5 ms
Dielectric strength	2000 V conforming to IEC 60947-1
Product certifications	EAC
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
Vibration resistance	2 gn (f= 10...150 Hz) conforming to IEC 60068-2-6
Resistance to electrostatic discharge	4 kV (contact) level 3 conforming to IEC 61000-4-2 8 kV (air) level 3 conforming to IEC 61000-4-2
Resistance to radiated fields	10 V/m (26000000...1000000000 Hz) conforming to IEC 61000-4-3 level 3
Resistance to fast transients	2 kV level 3 conforming to IEC 61000-4-4
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

Packing Units

Package 1 Weight	0.322 kg
Package 1 Height	0.800 dm
Package 1 width	1.400 dm
Package 1 Length	0.650 dm

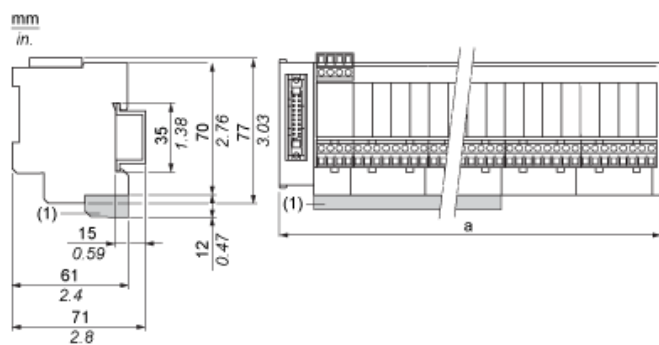
Offer Sustainability

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

Contractual warranty

Warranty	18 months
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Dimensions



(1) ABE7BV20 / ABE7BV20E

ABE7	a in mm	a in in.
R16S111 / R16S111E	125	4.92
R16S21 / R16S21•E	206	8.11

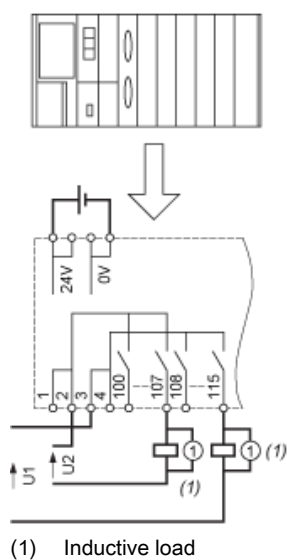
Mounting



HE10 16 Channels



Wiring Diagram



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)

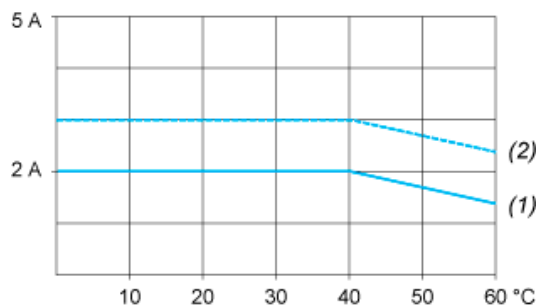
(1) TSXCDP••2 and ABFH20H••0 cables with c.s.a. 0.08 mm^2 (AWG 28).

(2) TSXCDP••3 cables with c.s.a. 0.34 mm^2 (AWG 22).

(3) Cables with c.s.a. 0.13 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



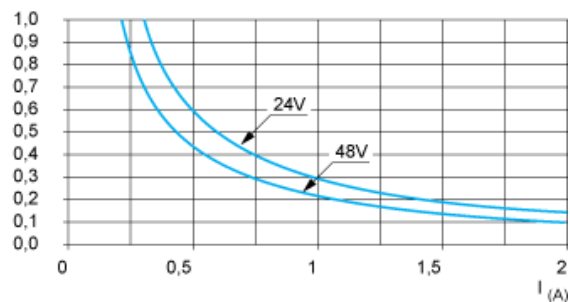
(1) 100 % of channels used

(2) 50 % of channels used

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

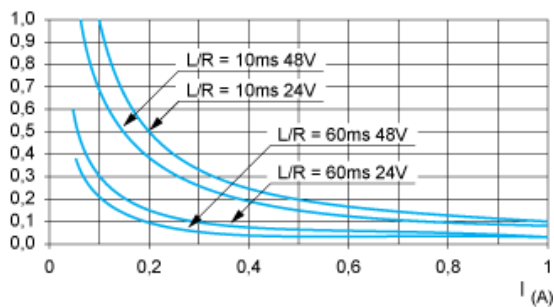
DC Loads

DC12 curves



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

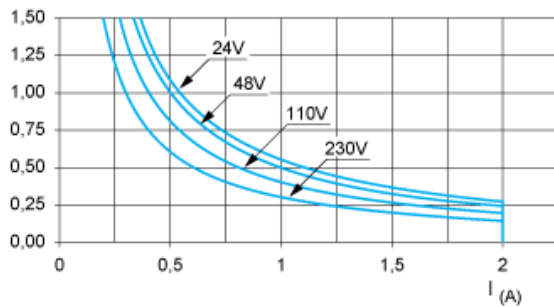
DC13 curves



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)

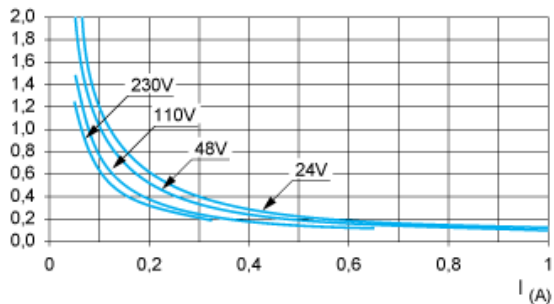
AC Loads

AC12 curves



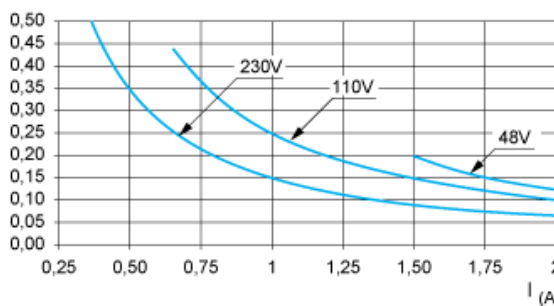
AC12control of resistive loads and of solid state loads isolated by optocoupler, $\cos \phi \geq 0.9$.

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: $\cos \phi = 0.4$.