



Main

Range of Product	Modicon ABE7
Product or Component Type	Discrete I/O sub-base
[Us] rated supply voltage	24 V DC controller side 24 V DC sensor/controller side
Number of Channels	20
Number of terminal per channel	2
Connections - terminals	Screw type terminals, 1 x 0.09...1 x 1.5 mm ² AWG 28...AWG 16) flexible with cable end Screw type terminals, 1 x 0.14...1 x 2.5 mm ² AWG 26...AWG 12) solid Screw type terminals, 1 x 0.14...1 x 2.5 mm ² AWG 26...AWG 14) flexible without cable end Screw type terminals, 2 x 0.09...2 x 0.75 mm ² AWG 28...AWG 20) flexible with cable end Screw type terminals, 2 x 0.2...2 x 2.5 mm ² AWG 28...AWG 16) solid
Connector destination	Twido programmable controller

Complementary

Supply voltage limits	19...30 V DC IEC 61131-2 controller side) 19...30 V DC IEC 61131-2 sensor/controller side)
Discrete input number	12
Discrete input logic	Sink
Discrete output number	2 solid state, 2000 mA source 6 relay, 3000 mA
Discrete output voltage	110...250 V AC relay 24 V DC solid state 5...30 V DC relay
Discrete output function	1 NO
Product Compatibility	TWDLMDA40DTK TWDLMDA20DTK
Status LED	1 LED power ON
Polarity distribution	1 common/12 channels input 1 common/2 channels solid state output 1 common/6 channels relay output
Short-circuit protection	2 A internal fuse, 5 x 20 mm, fast blow controller side)
Connector Type	HE-10
Pin number	26
Fixing mode	By clips 35 mm symmetrical DIN rail IEC 60715 By screws
Maximum supply current	2 A
Current per channel	0.0045 A solid state 0.009 A relay
Switched current	15 MA input 2000 MA solid state output 3000 mA relay output
Maximum current per output common	10 A relay output 4 A solid state output
Voltage drop on power supply fuse	0.3 V
Current state 0 guaranteed	0.4 mA solid state sensor/controller side)
Voltage state 0 guaranteed	10 V solid state sensor/controller side) 2 V relay sensor/controller side)
Current state 1 guaranteed	5.5 mA solid state sensor/controller side)

Voltage state 1 guaranteed	16 V solid state sensor/controller side) 16.8 V relay sensor/controller side)
Electrical durability	500000 Cycles 2000 mA AC-12 relay preactuator side) 500000 Cycles 2000 mA DC-12 solid state preactuator side) 500000 Cycles 2000 mA DC-13 solid state preactuator side) 500000 Cycles 3000 mA DC-12 relay preactuator side) 500000 Cycles 400 mA AC-15 relay preactuator side) 500000 cycles 500 mA DC-13 relay preactuator side)
Minimum switching current	1 MA solid state 100 mA relay
Response time	<= 0.01 ms from state 0 to 1 solid state <= 0.4 ms from state 1 to 0 solid state <= 2.5 ms from state 1 to 0 relay <= 5 ms from state 0 to 1 relay
[Uimp] rated impulse withstand voltage	6 KV relay 2.5 kV solid state
Switching frequency	20 Hz relay 300 Hz solid state
Mechanical durability	20000000 cycles 68 °F (20 °C)
[Ui] rated insulation voltage	2000 V terminals/mounting rails 300 V coil circuit/contact circuits IEC 60947-1
Overvoltage category	II IEC 60664-1
Tightening torque	5.31 lbf.in (0.6 N.m) flat Ø 3.5 mm
Net Weight	0.95 lb(US) (0.43 kg)

Environment

Standards	IEC 61131-2 Type 1
Product Certifications	UL[RETURN]CSA
IP degree of protection	IP2X conforming to IEC 60529
Resistance to incandescent wire	1382 °F (750 °C) IEC 60695-2-11
Shock resistance	15 gn 11 ms IEC 60068-2-27
Vibration resistance	2 gn 10...150 Hz)IEC 60068-2-6
Resistance to electrostatic discharge	4 KV contact) level 3 IEC 61000-4-2 8 kV air) level 3 IEC 61000-4-2
Resistance to radiated fields	9.14 V/m (10 V/m) 80000000...200000000 Hz)IEC 61000-4-3 level 3
Resistance to fast transients	2 kV level 3 IEC 61000-4-4
Ambient air temperature for operation	23...140 °F (-5...60 °C) IEC 61131-2
Ambient air temperature for storage	-40...176 °F (-40...80 °C) IEC 61131-2
Pollution degree	2 IEC 60664-1

Ordering and shipping details

Category	22375-INTERFACE MODULE(ABA,R,S)
Discount Schedule	CP2
GTIN	3389110572254
Returnability	No
Country of origin	LV

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	3.07 in (7.8 cm)
Package 1 Width	3.54 in (9 cm)
Package 1 Length	5.51 in (14 cm)
Package 1 Weight	12.73 oz (361 g)

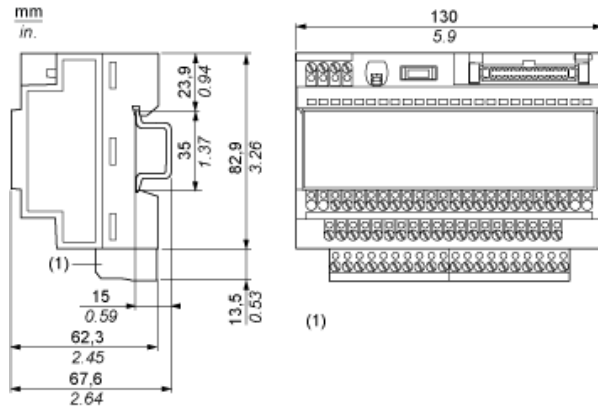
Offer Sustainability

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
REACH Regulation	REACH Declaration
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
Mercury free	Yes
China RoHS Regulation	China RoHS Declaration
RoHS exemption information	Yes
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.

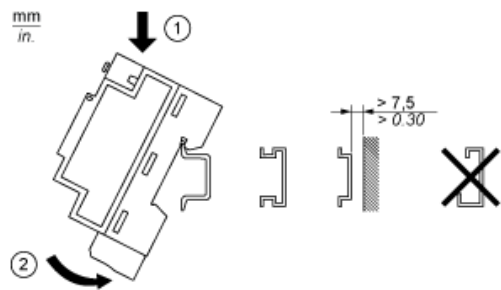
Contractual warranty

Warranty	18 months
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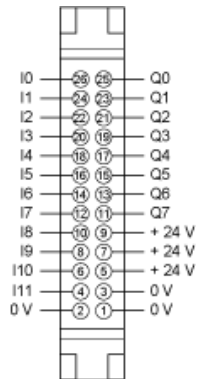
Dimensions



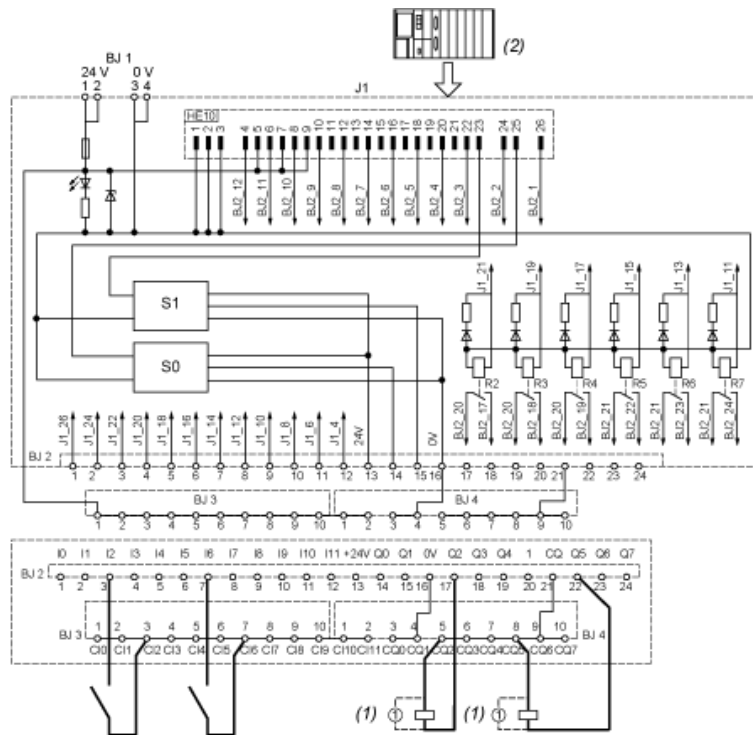
Mounting



HE10 20 Channels

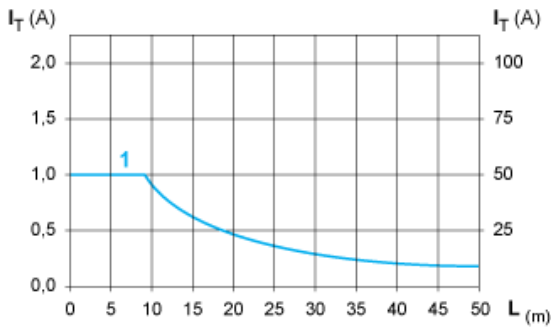


Wiring Diagram



- (1) Inductive load
- (2) Input sink

Curves for Determining Cable Type and Length According to the Current

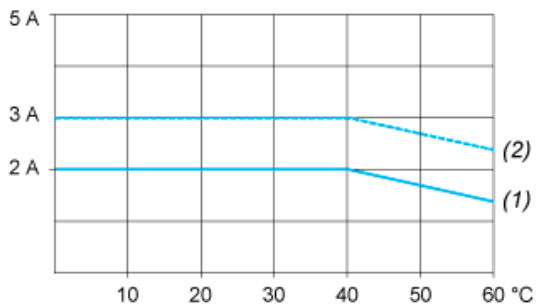


- L Cable length
- IT Total current per sub base (A)
- IA Average current per channel (mA)
- (1) Cables ABFT2••••• c.s.a. 0.08 mm² (AWG 28)

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

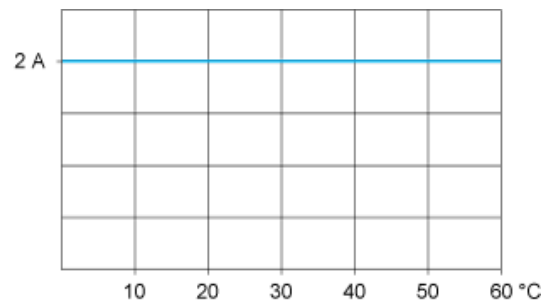
Electromechanical Relay Outputs



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

Temperature Derating Curves

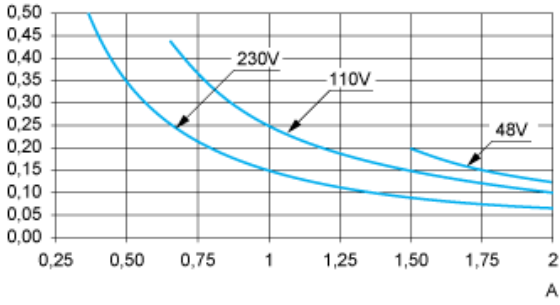
Solid State Outputs



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

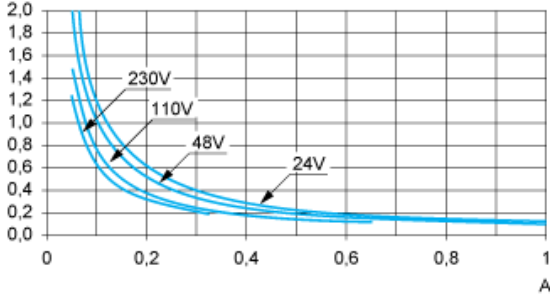
DC Loads

DC12 curves



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

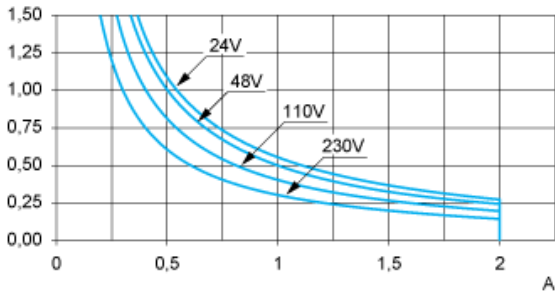
DC13 curves



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)

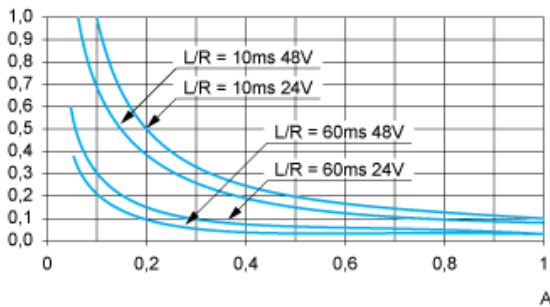
AC Loads

AC12 curves



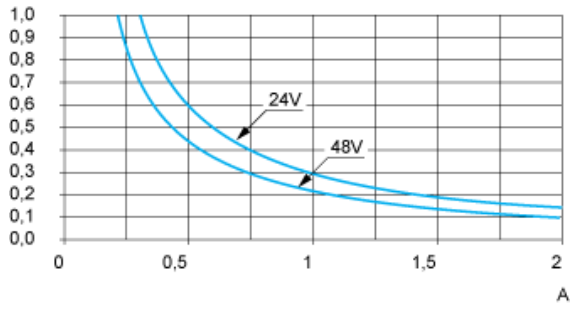
AC12control of resistive loads and of solid state loads isolated by optocoupler, $\cos \phi \geq 0.9$.

AC14 curves



AC14control of small electromagnetic loads ≤ 72 VA, make: $\cos \phi = 0.3$, break: $\cos \phi = 0.3$.

AC15 curves



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