



Main

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

Complementary

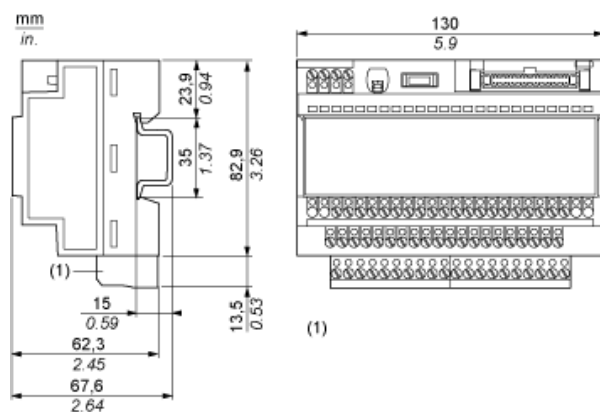
Supply voltage limits	19...30 V DC conforming to IEC 61131-2 (sensor/controller side) 19...30 V DC conforming to IEC 61131-2 (controller side)
Discrete input number	12
Discrete input logic	Sink
Discrete output number	6 relay output(s), 3000 mA 2 solid state output(s), 2000 mA at source
Discrete output voltage	5...30 V DC relay output(s) 24 V DC solid state output(s) 110...250 V AC relay output(s)
Discrete output function	1 NO
Product compatibility	TWDLMDA20DTK TWDLMDA40DTK
Status LED	1 LED for power ON
Polarity distribution	1 common/6 channels for relay output 1 common/2 channels for solid state output 1 common/12 channels for input
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 screws By clips on 35 mm symmetrical DIN rail conforming to IEC 60715
Supply current	≤ 2 A
Current per channel	0.009 A relay output(s) 0.0045 A solid state output(s)
Switched current	3000 mA for relay output 2000 mA for solid state output 15 mA for input
Current per output common	4 A solid state output 10 A relay output
Voltage drop on power supply fuse	0.3 V
Current state 0 guaranteed	0.4 mA solid state output(s) (sensor/controller side)
Voltage state 0 guaranteed	2 V relay output(s) (sensor/controller side) 10 V solid state output(s) (sensor/controller side)
Current state 1 guaranteed	5.5 mA solid state output(s) (sensor/controller side)

Voltage state1 guaranteed	16.8 V relay output(s) (sensor/controller side) 16 V solid state output(s) (sensor/controller side)
Electrical durability	500000 cycles, maximum switching current: 500 mA DC-13 relay output(s) (pre-actuator side) 500000 cycles, maximum switching current: 400 mA AC-15 relay output(s) (pre-actuator side) 500000 cycles, maximum switching current: 3000 mA DC-12 relay output(s) (pre-actuator side) 500000 cycles, maximum switching current: 2000 mA DC-13 solid state output(s) (preactuator side) 500000 cycles, maximum switching current: 2000 mA DC-12 solid state output(s) (preactuator side) 500000 cycles, maximum switching current: 2000 mA AC-12 relay output(s) (pre-actuator side)
Minimum switching current	100 mA relay output(s) 1 mA solid state output(s)
Response time	<= 5 ms from state 0 to 1 relay output(s) <= 2.5 ms from state 1 to 0 relay output(s) <= 0.4 ms from state 1 to 0 solid state output(s) <= 0.01 ms from state 0 to 1 solid state output(s)
[Uimp] rated impulse withstand voltage	2.5 kV solid state output(s) 6 kV relay output(s)
Switching frequency	300 Hz solid state 20 Hz relay
Mechanical durability	20000000 cycles at 20 °C
[Ui] rated insulation voltage	300 V between coil circuit/contact circuits conforming to IEC 60947-1 2000 V between terminals/mounting rails
Overvoltage category	II conforming to IEC 60664-1
Tightening torque	0.6 N.m (with flat Ø 3.5 mm)
Product weight	0.43 kg

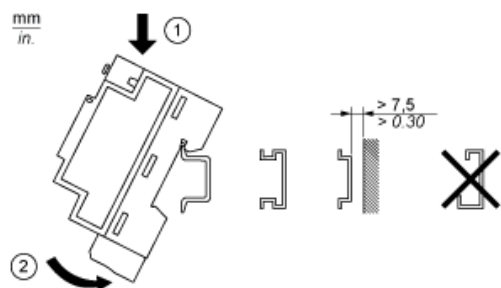
Environment

Standards	IEC 61131-2 Type 1
Product certifications	CSA UL
IP degree of protection	IP2x conforming to IEC 60529
Resistance to incandescent wire	750 °C 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 4 kV (contact) conforming to IEC 61000-4-2 level 3
Resistance to radiated fields	10 V/m (80000000...2000000000 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

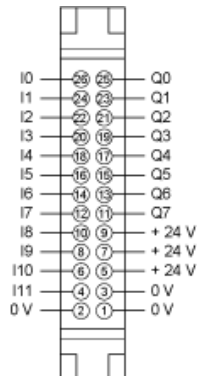
Dimensions



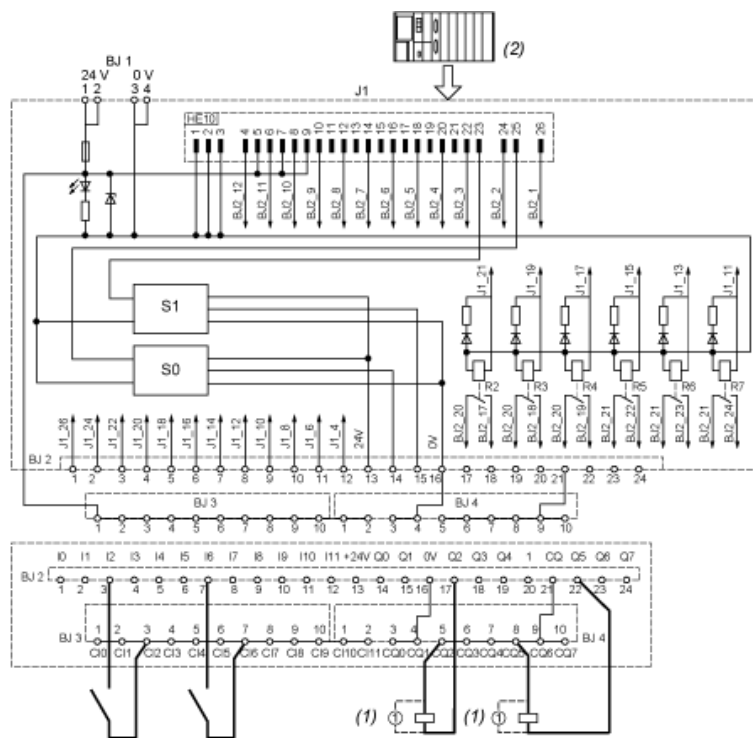
Mounting



HE10 20 Channels

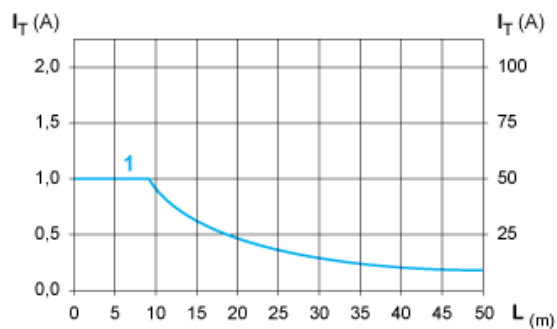


Wiring Diagram



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

Curves for Determining Cable Type and Length According to the Current

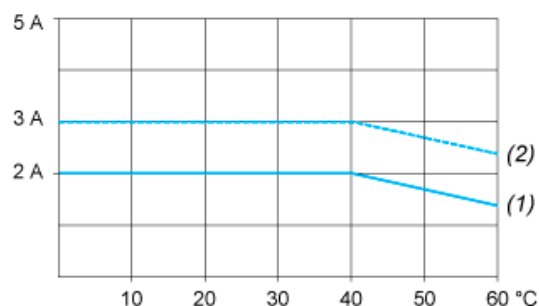


- L Cable length
 I_T Total current per sub base (A)
 I_A Average current per channel (mA)
 (1) Cables ABFT2••••• c.s.a. 0.08 mm² (AWG 28)

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

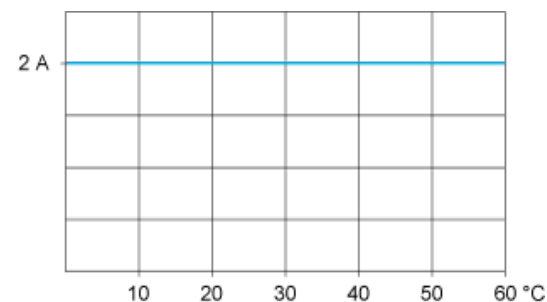
Electromechanical Relay Outputs



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

Temperature Derating Curves

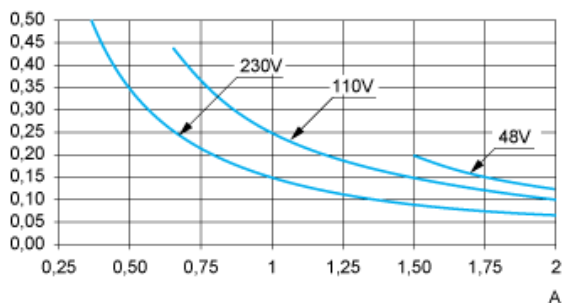
Solid State Outputs



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

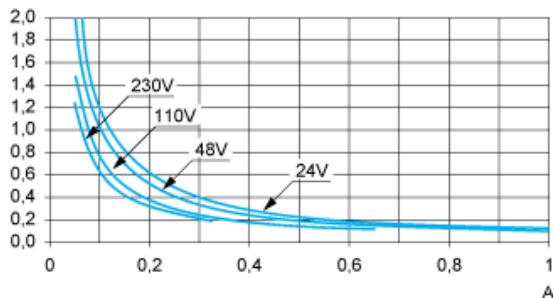
DC Loads

DC12 curves



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

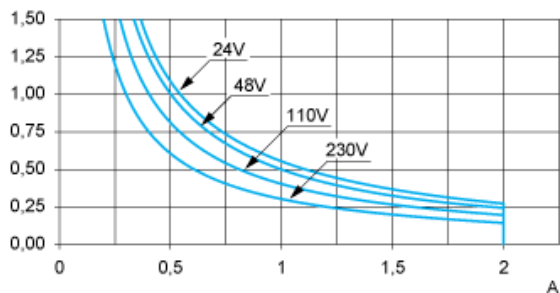
DC13 curves



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)

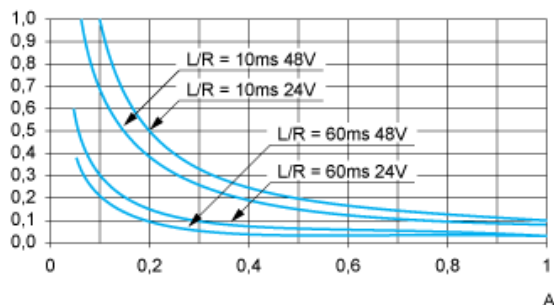
AC Loads

AC12 curves



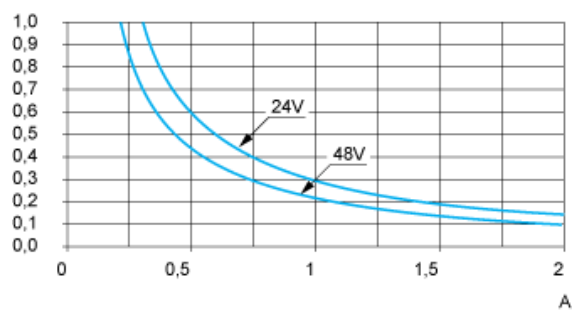
AC12control of resistive loads and of solid state loads isolated by optocoupler, $\cos \phi \geq 0.9$.

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: $\cos \phi = 0.4$.