

Main

Commercial Status	Commercialised
Range of product	Twido
Product or component type	Modular base controller
Discrete I/O number	20
Discrete input number	12
Discrete input logic	Sink or source
Discrete input voltage	24 V
Discrete input voltage type	DC
Discrete output number	6 for relay 2 for transistor (source)
[Us] rated supply voltage	24 V DC
Number of I/O expansion module	7
Free slots	2
Use of slot	32 K or 64 K memory cartridge and 1 realtime clock

Complementary

Input voltage limits	20.4...26.4 V
Discrete input current	7 mA for I0.8 to I0.11 7 mA for I0.2 to I0.5 5 mA for I0.6 to I0.7 5 mA for I0.0 to I0.1
Input impedance	5700 Ohm for I0.6 to I0.7 5700 Ohm for I0.0 to I0.1 4700 Ohm for I0.8 to I0.11 4700 Ohm for I0.2 to I0.5
Filter time	45 µs for I0.6 to I0.7 at state 0 45 µs for I0.0 to I0.1 at state 0 40 µs for I0.8 to I0.11 at state 1 40 µs for I0.2 to I0.5 at state 1 35 µs for I0.6 to I0.7 at state 1 35 µs for I0.0 to I0.1 at state 1 150 µs for I0.8 to I0.11 at state 0 150 µs for I0.2 to I0.5 at state 0
Insulation between channel and internal logic	1500 Vrms for 1 minute
Insulation resistance between channel	None
Discrete output voltage	24 V
Output voltage limits	20.4...28.8 V
Current per channel	0.36 A for transistor output 2 A for relay output
Current per output common	8 A for relay output 1 A for transistor output
Response time	5 µs for Q0.0 to Q0.1 at state 1 5 µs for Q0.0 to Q0.1 at state 0
[Ures] residual voltage	<= 1 V at state 1
Leakage current	0.1 mA
Output overvoltage protection	39 V
Tungsten load	8 W
Surge current	<= 5 A for relay output
Discrete output current	300 mA
Minimum load	0.1 mA

Contact resistance	<= 40000 µOhm
Load current	2 A at 30 V DC resistive load, operating rate = 30 cyc/mn for relay outputs 2 A at 30 V DC inductive load, operating rate = 30 cyc/mn for relay outputs 2 A at 240 V AC resistive load, operating rate = 30 cyc/mn for relay outputs 2 A at 240 V AC inductive load, operating rate = 30 cyc/mn for relay outputs
Mechanical durability	>= 20000000 cycles for relay outputs
Electrical durability	>= 100000 cycles for relay outputs
Current consumption	5 mA at 5 V DC at state 0 40 mA at 24 V DC at state 1 30 mA at 5 V DC at state 1
I/O connection	Removable screw terminal block
Input/Output number	<= 244, HE-10 connector with I/O expansion module <= 188, spring terminal block with I/O expansion module <= 132, removable screw terminal block with I/O expansion module
Supply voltage limits	20.4...26.4 V
Protection type	Power protection with internal fuse
Power consumption in W	<= 19 W (base + 4 expansion module)
Inrush current	<= 50 A for power supply <= 1 A for transistor output
Insulation resistance	> 10 MOhm at 500 V, between supply and earth terminals > 10 MOhm at 500 V, between I/O and earth terminals
Program memory	3000 instructions 6000 instructions with 64 K memory cartridge
Exact time for 1 K instruction	1 ms
System overhead	0.5 ms
Memory description	Internal RAM, floating, trigonometrical Internal RAM, double words, no floating, no trigonometrical Internal RAM, 3000 internal words, no floating, no trigonometrical Internal RAM, 256 internal bits, no floating, no trigonometrical Internal RAM, 128 timers, no floating, no trigonometrical Internal RAM, 128 counters, no floating, no trigonometrical
Battery type	Lithium for internal RAM, autonomy: 30 days, charging time = 15 h, battery life = 10 yr
Integrated connection type	Non isolated serial link mini DIN, Modbus/character mode master/slave RTU/ ASCII (RS485) half duplex, 38,4 kbit/s Power supply
Counting input number	2 channel(s) at 5000 Hz 16 bits 2 channel(s) at 20000 Hz 32 bits
Positioning functions	PWM/PLS 2 channel(s) at 7 kHz
Analogue input number	1
Analogue input range	0...10 V
Analogue input resolution	9 bits
Input impedance	100000 Ohm
Complementary function	Event processing PID
Analogue adjustment points	1 point adjustable from 0...1023
Status LED	1 LED per channel for I/O status 1 LED green for RUN 1 LED green for PWR 1 LED for STAT 1 LED for ERR
CAD overall width	48 mm
CAD overall height	95 mm
CAD overall depth	70 mm

Terminals description PLC n°1	(0)IN_DIS#0 (1)IN_DIS#1 (10)IN_DIS#10 (11)IN_DIS#11 (2)IN_DIS#2 (3)IN_DIS#3 (4)IN_DIS#4 (5)IN_DIS#5 (6)IN_DIS#6 (7)IN_DIS#7 (8)IN_DIS#8 (9)IN_DIS#9 (COM)COM_NEG#0-11 ALT TB_1
Terminals description PLC n°2	(0)IN_DIS#0 (1)IN_DIS#1 (10)IN_DIS#10 (11)IN_DIS#11 (2)IN_DIS#2 (3)IN_DIS#3 (4)IN_DIS#4 (5)IN_DIS#5 (6)IN_DIS#6 (7)IN_DIS#7 (8)IN_DIS#8 (9)IN_DIS#9 (COM)COM_POS#0-11 ALT_1 TB_1
Terminals description PLC n°3	(0)OUT_DIS#0 (1)OUT_DIS#1 (2)OUT_DIS#2 (3)OUT_DIS#3 (4)OUT_DIS#4 (5)OUT_DIS#5 (6)OUT_DIS#6 (7)OUT_DIS#7 (COM0)COM0_POS#0-1 (COM1)COM1#2-4 (COM2)COM2#5-6 (COM3)COM3#7 (NC)UNUSED (V-)PW_NEG TB_2
Product weight	0.185 kg

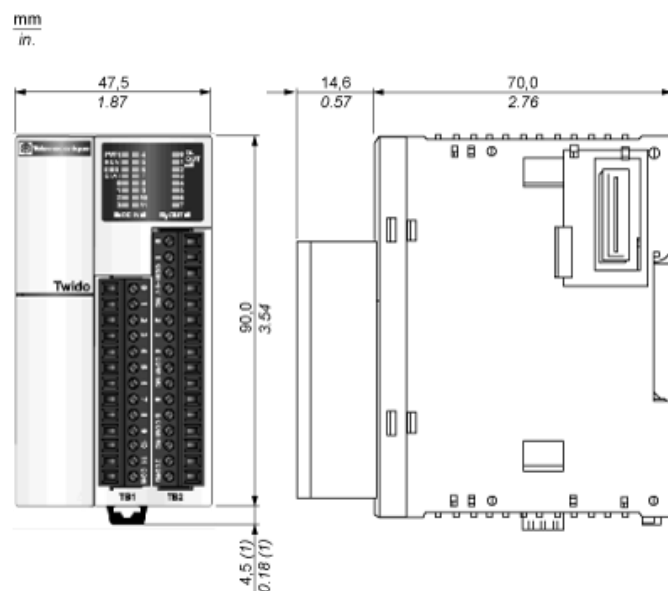
Environment

Immunity to microbreaks	10 ms
Dielectric strength	500 V for 1 minute, between supply and earth terminals 1500 V for 1 minute, between I/O and earth terminals
Product certifications	CSA UL
Marking	CE
Ambient air temperature for storage	-25...70 °C
Ambient air temperature for operation	0...55 °C
Relative humidity	30...95 % without condensation
IP degree of protection	IP20
Operating altitude	0...2000 m
Storage altitude	0...3000 m
Vibration resistance	4 gn, 25...100 Hz mounting on: plate or panel with fixing kit 1.6 mm, 2...25 Hz mounting on: plate or panel with fixing kit 1 gn, 57...150 Hz mounting on: 35 mm symmetrical DIN rail 0.075 mm, 10...57 Hz mounting on: 35 mm symmetrical DIN rail
Shock resistance	15 gn for 11 ms

Contractual warranty

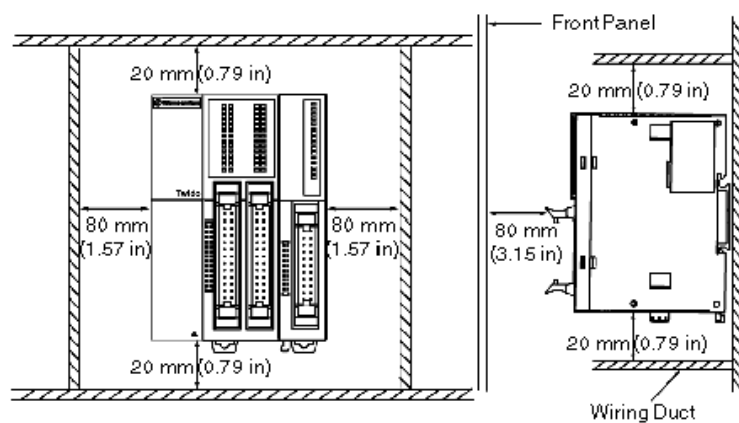
Period	18 months
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Dimensions

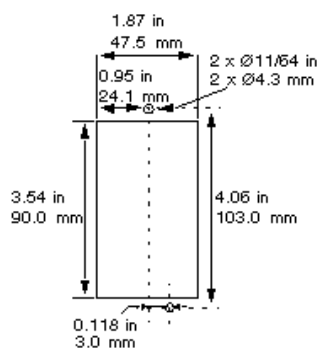


(1) 8.5 mm (0.33 in) when the clamp is pulled out.

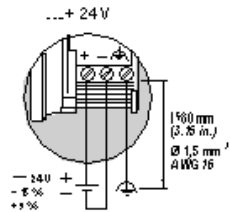
Minimum Clearances for a Modular Base and Expansion I/O Modules



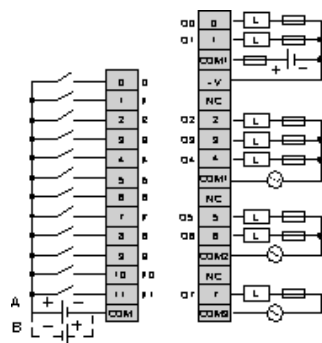
Mounting Hole Layout



DC Power Supply Wiring



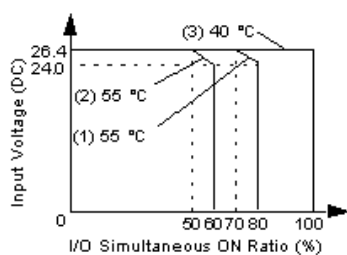
Wiring Diagram



- A Positive logic.
- B Negative logic.

Performance Curves

I/O Usage Limits



- (1) Limit for TWDLMDA20DUK and TWDLMDA20DTK
- (2) Limit for TWDLMDA40DUK and TWDLMDA40DTK
- (3) All modular bases