

# Product datasheet

Specifications



Modular base controller, Twido,  
24VDC supply, 20 discrete I/O,  
15W, 9 bits resolution, 8 output  
source

TWDLMDA20DTK

! Discontinued

! Discontinued on: 20 Oct 2022

## Main

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	8 for transistor (source)
[Us] rated supply voltage	24 V DC
Maximum number of I/O expansion module	4
Free slots	2
Use of slot	32 K memory cartridge and 1 realtime clock

## Complementary

Input voltage limits	20.4...26.4 V
Discrete input current	5 mA for I0.0 to I0.1 5 mA for I0.6 to I0.7 7 mA for I0.2 to I0.5 7 mA for I0.8 to I0.11
Input impedance	4700 Ohm for I0.2 to I0.5 4700 Ohm for I0.8 to I0.11 5700 Ohm for I0.0 to I0.1 5700 Ohm for I0.6 to I0.7
Filter time	150 µs for I0.2 to I0.5 at state 0 150 µs for I0.8 to I0.11 at state 0 35 µs for I0.0 to I0.1 at state 1 35 µs for I0.6 to I0.7 at state 1 40 µs for I0.2 to I0.5 at state 1 40 µs for I0.8 to I0.11 at state 1 45 µs for I0.0 to I0.1 at state 0 45 µs for I0.6 to I0.7 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

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

Maximum current per output common	1 A for transistor output
Response time	300 µs for Q0.2 to Q0.7 at state 0 300 µs for Q0.2 to Q0.7 at state 1 5 µs for Q0.0 to Q0.1 at state 0 5 µs for Q0.0 to Q0.1 at state 1
[Ures] residual voltage	1 V at state 1
Maximum leakage current	0.1 mA
Output overvoltage protection	39 V
Maximum tungsten load	8 W
Discrete output current	300 mA
I/O connection	HE-10 connector
Maximum input/output number	116 spring terminal block with I/O expansion module 148 HE-10 connector with I/O expansion module 84 removable screw terminal block with I/O expansion module
Supply voltage limits	20.4...26.4 V
Protection type	Power protection by internal fuse
Maximum power consumption in W	15 W base + 4 expansion module
Inrush current	1 A for transistor output 50 A for power supply
Insulation resistance	> 10 MOhm at 500 V, between I/O and earth terminals > 10 MOhm at 500 V, between supply and earth terminals
Program memory	3000 instructions
Exact time for 1 Kinstruction	1 ms
System overhead	0.5 ms
Memory description	Internal RAM, 128 counters, no floating, no trigonometrical Internal RAM, 128 timers, no floating, no trigonometrical Internal RAM, 256 internal bits, no floating, no trigonometrical Internal RAM, 3000 internal words, no floating, no trigonometrical Internal RAM, double words, no floating, no trigonometrical
Battery type	Lithium battery for internal RAM, autonomy: 30 days, charging time = 15 h, battery life = 10 year(s)
Integrated connection type	Power supply Non isolated serial link mini DIN, Modbus/character mode master/slave RTU/ASCII (RS485) half duplex, 38.4 kbit/s
Counting input number	2 counting input(s) at 20000 Hz 32 bits 2 counting input(s) at 5000 Hz 16 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	PID Event processing
Analogue adjustment points	1 point adjustable from 0...1023
Status LED	1 LED ERR 1 LED STAT 1 LED (green) PWR 1 LED (green) RUN 1 LED per channel I/O status

## Environment

Immunity to microbreaks	10 ms
Dielectric strength	1500 V for 1 minute, between I/O and earth terminals 500 V for 1 minute, between supply 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	0.075 mm at 10...57 Hz on 35 mm symmetrical DIN rail 1 gn at 57...150 Hz on 35 mm symmetrical DIN rail 1.6 mm at 2...25 Hz on plate or panel with fixing kit 4 gn at 25...100 Hz on plate or panel with fixing kit
Shock resistance	15 gn for 11 ms

## Packing Units

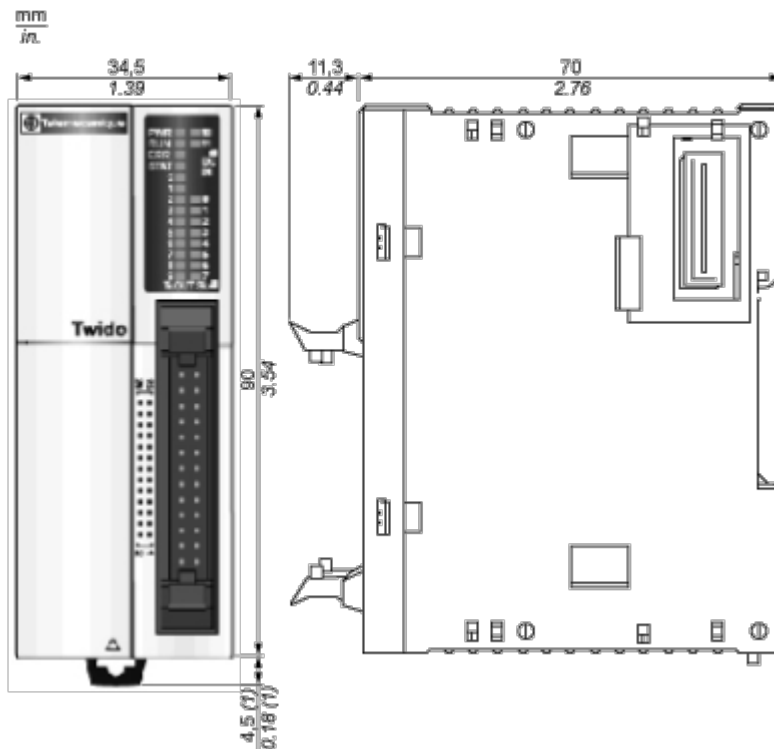
Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	7.5 cm
Package 1 Width	10.5 cm
Package 1 Length	13.0 cm
Package 1 Weight	251.0 g
Unit Type of Package 2	PAL
Number of Units in Package 2	25
Package 2 Height	29.9 cm
Package 2 Width	39.8 cm
Package 2 Length	25.0 cm
Package 2 Weight	6.89 kg
Unit Type of Package 3	S01
Number of Units in Package 3	5
Package 3 Height	15.0 cm
Package 3 Width	15.0 cm
Package 3 Length	40.0 cm
Package 3 Weight	1.392 kg

## Contractual warranty

Warranty	18 months
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## Dimensions Drawings

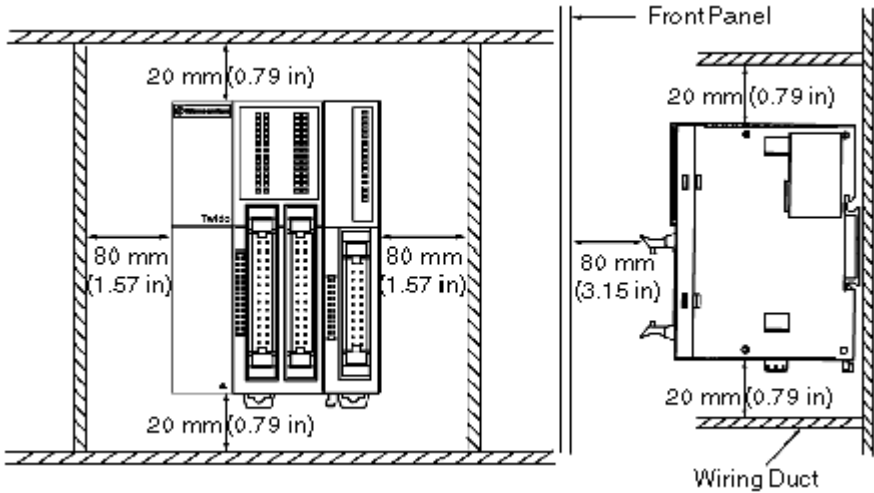
## Dimensions



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

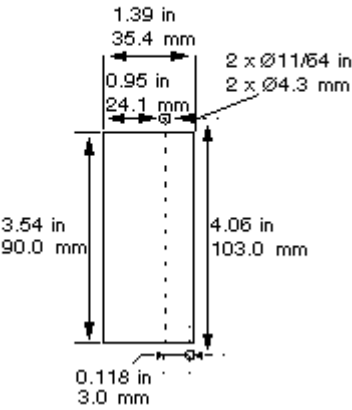
Mounting and Clearance

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



Mounting Hole Layout

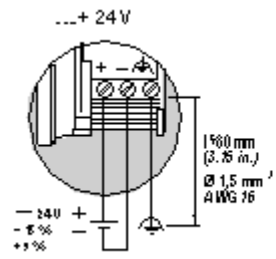
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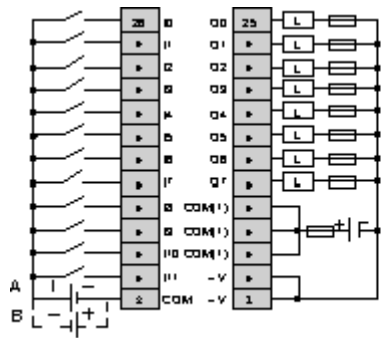
Connections and Schema

DC Power Supply Wiring

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Wiring Diagram



- A Positive logic.
- B Negative logic.

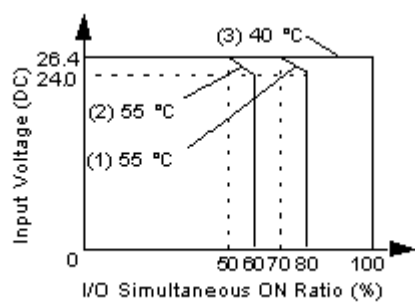


Performance Curves

Performance Curves

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I/O Usage Limits



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