

Main

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| 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

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| 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 |

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| 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 |

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| 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 |

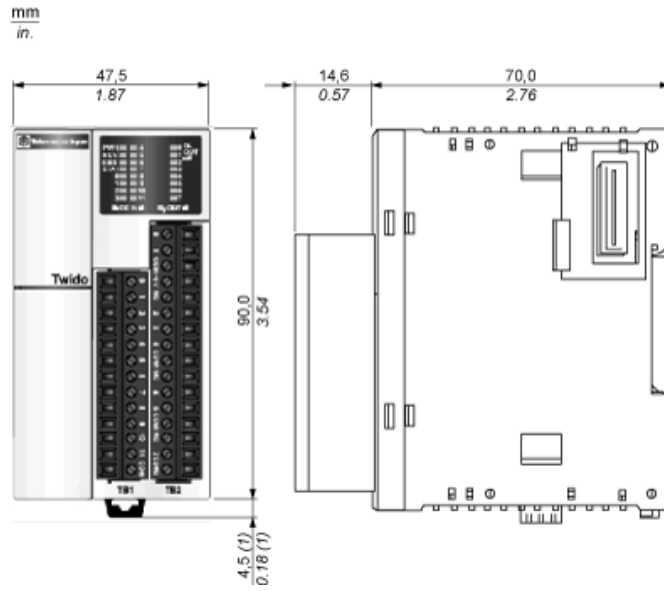
Environment

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|---------------------------------------|---|
| 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

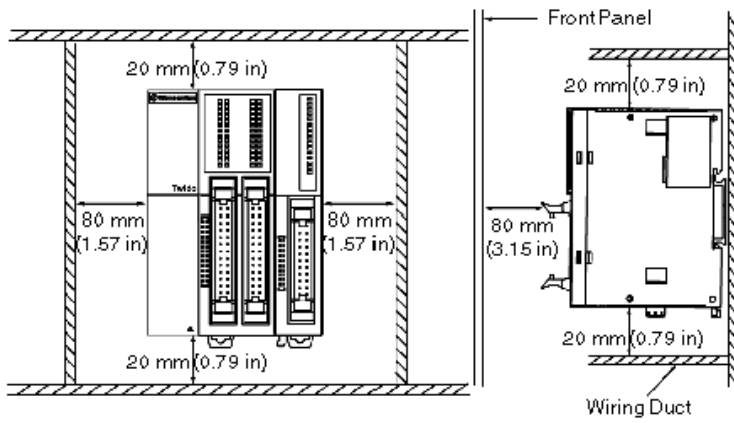
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| Period | 18 months |
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Dimensions

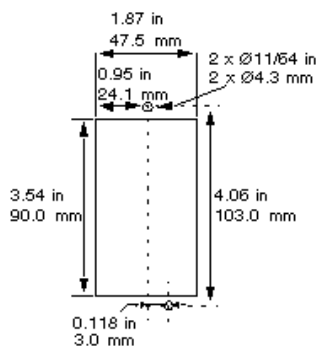


(1) 8.5 mm (0.33 in) when the clamp is pulled out.

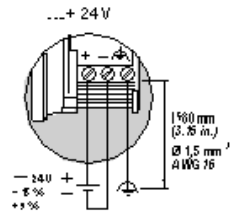
Minimum Clearances for a Modular Base and Expansion I/O Modules



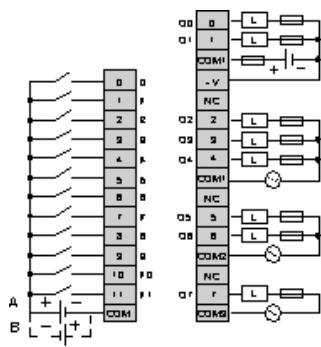
Mounting Hole Layout



DC Power Supply Wiring



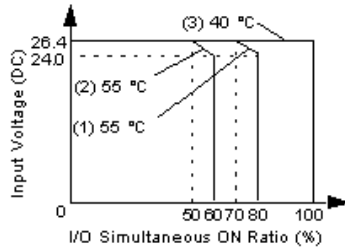
Wiring Diagram



- 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