

Schneider Service Manual

OTB1C0DM9LP

1. Description

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3. Product Information

OTB1C0DM9LP

I/O distributed module OTB - CANopen bus -

0...1000 m

Main

Range of product Modicon OTB

Product or component type I/O distributed module

Integrated connection type CANopen bus SUB-D 9, transmission mode: 2 twisted shielded pairs at 10 kbit/s...1 Mbit/s

Bus type CANopen S20, profile: DS 401 V2.1, method of access: CSMA/MA multimaster with priority

conforming to DR303-2

CANopen S20, profile: DS 401 V2.1, method of access: CSMA/MA multimaster with priority

conforming to DS301 V4.02

Discrete input number 12 conforming to EN/IEC 61131 type 1

Discrete input logic Sink or source

Discrete input current 5 mA for I0...I1

5 mA for I6...I7

7 mA for I2...I5

7 mA for I8...I11

Discrete output number 2 solid state PNP for Q0...Q1 output logic: source

6 relay for Q2...Q7

Discrete output current 2000 mA relay

300 mA solid state

Complementary

Topology Devices linked by daisy-chaining or tap junctions

Number of slave 0...63

Bus length 0...100 m tap-off length: 0...10 m, 500 kbit/s

0...1000 m tap-off length: 0...120 m, 50 kbit/s

0...250 m tap-off length: 0...10 m, 250 kbit/s

0...2500 m tap-off length: 0...300 m, 20 kbit/s

0...40 m tap-off length: 0...6 m, 800 kbit/s

0...500 m tap-off length: 0...10 m, 125 kbit/s

0...5000 m tap-off length: 0...600 m, 10 kbit/s

0...20 m, 1 Mbit/s

Number of devices per segment 0...16, length of segment 0...205 m

0...32, length of segment 0...185 m

0...64, length of segment 0...160 m

Discrete input voltage 24 V

Discrete input voltage type DC

Discrete input type NPN or PNP

Input voltage limits 20.4...26.4 V

Electronic filtering time 0.035 ms for I0...I1 at state 1

0.035 ms for I6...I7 at state 1

0.04 ms for I2...I5 at state 1

0.04 ms for I8...I11 at state 1

0.045 ms for I0...I1 at state 0

0.045 ms for I6...I7 at state 0

0.15 ms for I2...I5 at state 0

0.15 ms for I8...I11 at state 0

Configurable filtering time 0 ms

12 ms

3 ms

Input impedance 3.4 kOhm for I2...I5

3.4 kOhm for I8...I11

5.7 kOhm for I0...I1

5.7 kOhm for I6...I7

Discrete output voltage 24 V DC solid state

240 V AC relay

30 V DC relay

Output voltage limits 20.4...28.8 V solid state

Output current limits 360 mA solid state

Current per output common 8 A relay

≤ 0.72 A solid state

Current consumption 30 mA at 5 V DC (at state 1) relay output

40 mA at 24 V DC (at state 1) relay output

5 mA at 5 V DC (at state 0) relay output

Output overvoltage protection 38...40 V

Tungsten load 8 W for solid state

Response time 300 μ s at state 0 for relay

300 μ s at state 1 for relay

5 μ s at state 0 for solid state

5 μ s at state 1 for solid state

Switchable load ≥ 0.1 mA

Contact bounce time ≤ 1 ms for relay

Leakage current ≤ 0.1 mA at state 0 for solid state

Drop-out voltage ≤ 1 V at state 1

Insulation between channels and internal logic

1500 Vrms for 1 minute for relay output

500 Vrms for 1 minute for input circuit

500 Vrms for 1 minute for solid state output

Insulation between channels None

Contact resistance ≤ 30 mOhm

Electrical durability 500000 cycles AC-1 with 500 VA load for relay output

500000 cycles AC-14 with 250 VA load for relay output

500000 cycles AC-15 with 200 VA load for relay output

500000 cycles DC-1 with 60 W load for relay output

500000 cycles DC-13 with 30 W load for relay output

Supply circuit type DC

[Us] rated supply voltage 24 V

Supply voltage limits 20.4...26.2 V

Input current ≤ 700 mA at 26.2 V for supply circuit

Inrush current ≤ 1 A for solid state output

≤ 50 A for supply circuit

Power consumption 19 W

Number of I/O expansion module 0...7

I/O expansion capacity 132 with screw terminal discrete I/O module(s)

188 with spring terminal discrete I/O module(s)

244 with HE10 connector discrete I/O module(s)

7 x 8I or 7 x 2I or 7 x (4I/2O) with screw terminal analogue I/O module(s)

Insulation resistance ≥ 10 mOhm between I/O and earth terminals

≥ 10 mOhm between power supply and earth

I/O connection Removable screw terminal block

Number of common point 1 for relay output (1 NO)

1 for relay output (2 NO)

1 for relay output (3 NO)

1 for input

1 for solid state output

Counting input number 2

Counting capacity 32 bits

Counting frequency 20000 Hz

5000 Hz

Pulse generator number 2

Pulse generator frequency 7 kHz

Pulse generator function RPLS pulse generator output

RPWM pulse width modulation

Marking CE

Fixing mode By clips on 35 mm symmetrical DIN rail

By screws on panel with fixing kit

By screws on solid plate with fixing kit

Status LED 1 LED per channel, green for I/O

1 LED, green for PWR

1 LED, green for RUN

1 LED, red for ERR

Product weight 0.195 kg

Environment

IP degree of protection IP20

Immunity to microbreaks 10 ms for supply circuit

Dielectric strength 500 V between I/O and earth terminals

500 V between power supply and earth

Standards CSA

EN 61131-2

IEC 61131-2

UL 508

CSA C22.2 No 213 Class I Division 2 Group A

CSA C22.2 No 213 Class I Division 2 Group B

CSA C22.2 No 213 Class I Division 2 Group C

CSA C22.2 No 213 Class I Division 2 Group D

Product certifications CULus

Ambient air temperature for operation 0...55 °C

Ambient air temperature for storage -25...70 °C

Relative humidity 30...95 % without condensation

Pollution degree 2 conforming to EN 60664

2 conforming to IEC 60664

Operating altitude 0...2000 m

Storage altitude 0...3000 m

Vibration resistance 0.075 mm (f = 10...57 Hz) on 35 mm symmetrical DIN rail

1 gn (f = 57...150 Hz) on 35 mm symmetrical DIN rail

Shock resistance 15 gn for 11 ms conforming to EN 61131

15 gn for 11 ms conforming to IEC 61131

Resistance to electrostatic discharge 4 kV in contact conforming to IEC 61000-4-2

8 kV in air conforming to EN 61000-4-2

8 kV in air conforming to IEC 61000-4-2

4 kV in contact conforming to EN 61000-4-2

Resistance to radiated fields 10 V/m, 80000000...2000000000 Hz conforming to EN 61000-4-3

10 V/m, 80000000...2000000000 Hz conforming to IEC 61000-4-3

Resistance to fast transients 1 kV for 24 V solid state I/O conforming to IEC 61000-4-4

2 kV for 24 V supply conforming to IEC 61000-4-4