Installation / Control Technique

MINIMASTER
Input Module for CANopen
IP 5502

Translation
of the original instructions

0243237

- According to IEC/EN 61131-2
- CANopen interface according to DS301 version 3.0 (Plug and Play selectable), as option with galvanic separation
- 8 digital inputs for DC 24 V
- LED indicators for supply voltage and Bus status
- 70 mm width

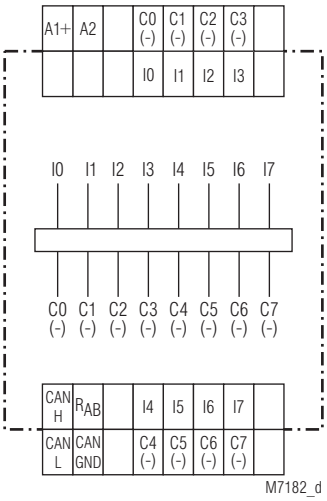
Product Description

The CANopen input module IP 5502 has 8 digital inputs. The IP 5502 can be operated both in combination with a CANopen PLC and in pulg & play operatioon with a CANopen output module IP 5503.

Additional Information

- Datasheet Output Module IP 5503
- Datasheet Emergency Off Monitor BH 5922

Circuit Diagram



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Approvals and Markings

CE

Application

The digital input module IP 5502 collects signals of a control circuit from limit switches, push buttons, sensors etc. The modules are used in industrial control circuits and building automation.

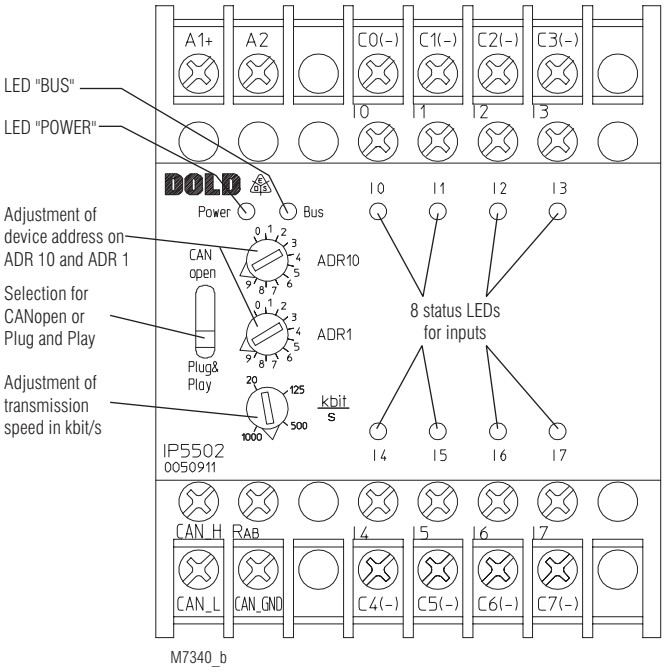
Indicators

Yellow LED "Power":	On, when supply connected
Yellow LED "BUS":	On, when bus is active
Green LEDs I_0 ... I_7:	On, when input signal applied

Connection Terminals

Terminal designation	Signal description
A1+	Auxiliary voltage + DC 24 V
A2	Auxiliary voltage 0 V
I0, I1, I2, I3, I4, I5, I6, I7	Digital inputs 0 ... 7 Anschluss +
C0(-), C1(-), C2(-), C3(-), C4(-), C5(-), C6(-), C7(-)	Digital inputs 0 ... 7 Anschluss -
CAN_H, CAN_L, CAN_GND	CANopen-connections
R_{AB}	Connection for wire bridge

Setting and Adjustment



CANopen operation
With switch in position "CANopen" the CAN bus runs the CANopen protocol. The device is configured using ProCANopen for example. The corresponding configuration file is available for download at *www.dold.com/service/downloads.*

Plug and Play operation
With switch in position "Plug and Play" the CANopen bus runs a variant of the CANopen protocol and allows only to operate Dold modules that have this feature. If a system is configured in Plug and Play operation, it can be altered to CANopen at any time.

Address setting in Plug and Play mode
To allow the input module to communicate via CAN-bus with a corresponding device, the address has to be adjusted on the 2 rotational switches on the front see below: The addresses 1 ... 49 and 51 ... 99 can be chosen. In Plug and Play mode the addresses 0 and 50 do not exist.

Input module IP 5502 with address	Transmits to	Output module IP 5503 with address
1	→	51
.		.
.		.
49	→	99

Example of setting: Address 14
Upper rotational switch "ADR 10": In position 1
Lower rotational switch "ADR 1": In position 4

Set-up procedure
1.) Connect device to CANopen-bus
2.) Terminate bus on both ends with bridge between CAN_H and R_{AB} on first and last module.
3.) Adjust transmission speed (e. g. 20 Kbit/s)
4.) Adjust devide addresses

Attention:
To allow transmission in Plug and Play mode, one of the input modules e.g. IP 5502 of the CAN-bus has to be set to address 1.

Technical Data

Auxiliary voltage

Auxiliary voltage U_H A1/A2: DC 24 V
Voltage range: 0.8 ... 1.1 U_N
Nominal consumption: 0.5 W DC 24 V

Input

Inputs Galvanic separated
IP 5502: 8 digital inputs IEC/EN 61131-2
Input voltage: DC 24 V
CANopen interface
IP 5502.08/100: Galvanic separation according to ISO 11898-1
Wire: Screened twisted pair
Transmission speed: Adjustable 20 Kbit/s, 125 Kbit/s, 500 Kbit/s, 1 Mbit/s,
Max. length: 20 Kbit/s = 2.500 m
125 Kbit/s = 500 m
500 Kbit/s = 100 m
1 Mbit/s = 25 m

Plug and Play
Transmission speed: 20 Kbit/s (recommended)
Attention:
Both ends of the 2-wire bus have to be terminated with a bridge between CAN_H and R_{AB}.

General Data

Operating mode: Continuous operation
Temperature range
Operation: - 20 ... + 60 °C
Storage: - 25 ... + 80 °C
Relative air humidity: 93 % at 40 °C
Altitude: ≤ 2000 m
Clearance and creepage distances
Rated impulse voltage / pollution degree: 4 kV / 2 IEC 60664-1
EMC
Electrostatic discharge: 8 kV (air) IEC/EN 61000-4-2
HF-irradiation: 10 V / m IEC/EN 61000-4-3
Fast transients: 2 kV IEC/EN 61000-4-4
Surge voltages between
Wires for power supply: 1 kV IEC/EN 61000-4-5
Between wire and ground: 2 kV IEC/EN 61000-4-5
Interference suppression: Limit value class B EN 55011
Degree of protection
Housing: IP 40 IEC/EN 60529
Terminals: IP 20 IEC/EN 60529
Housing: Thermoplastic with V0-behaviour according to UL subject 94
Vibration resistance: Amplitude 0.35 mm frequency 10 ... 55 Hz IEC/EN 60068-2-6
Climate resistance: 20 / 060 / 04 IEC/EN 60068-1
Terminal designation: EN 50005
Wire connection: 2 x 2.5 mm² solid or
2 x 1.5 mm² stranded wire with sleeve DIN 46228-1/-2/-3/-4
Insulation of wires or sleeve length: 10 mm
Wire fixing: Flat terminals with self-lifting clamping peace IEC/EN 60999-1
Fixing torque: 0.8 Nm
Mounting: DIN rail IEC/EN 60715
Weight: 187 g

Dimensions

Width x height x depth: 70 x 90 x 61 mm

Standard Type

IP 5502.08 DC 24 V

Article number:	0050911
• 8 digital inputs	
• Nominal voltage U_N:	DC 24 V
• Width:	70 mm

Ordering example for variant

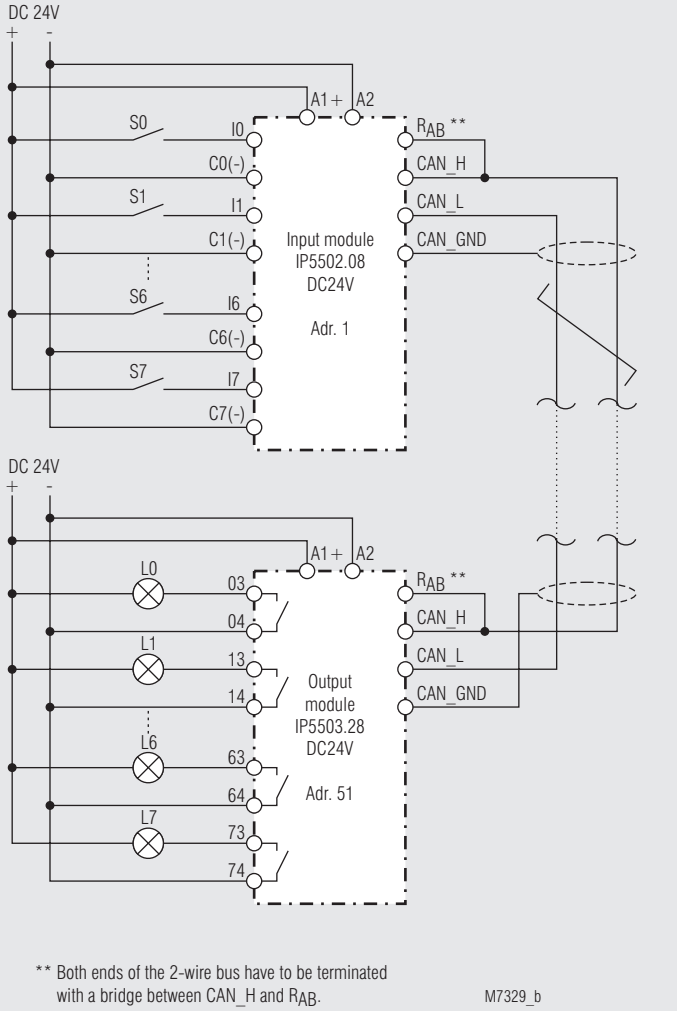
IP 5502 08 /_00 DC 24 V

- Auxiliary voltage
- Bus interface
  - 0 CANopen interface without galvanic separation
  - 1 CANopen interface with galvanic separation
- Contacts
- Type

Accessories

- Input module, digital IP 5502
- Output module, digital IP 5503

Application Example



Design of a 2-wire remote control
Switch position: Plug & Play
Connect input module IP 5502 to output module IP 5503 via a 2-wire line adjust addresses and slide switch.