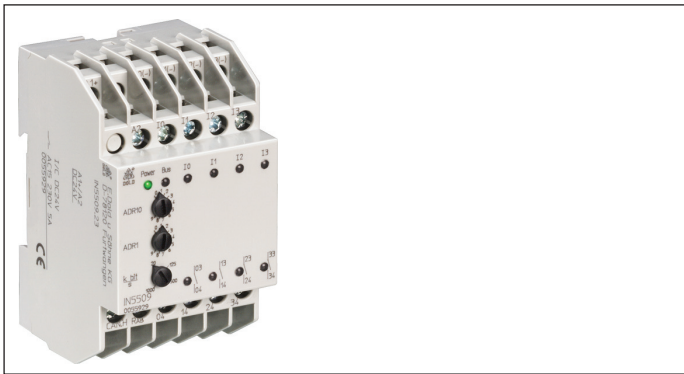


MINIMASTER

Input / Output Module for CANopen IN 5509



0247893



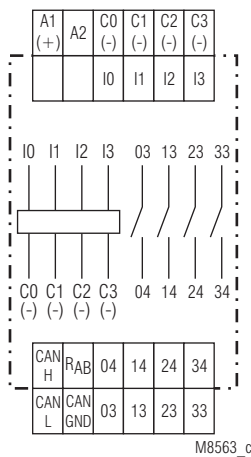
Your Advantages

- Compact structure
- Easy installation

Features

- According to IEC/EN 61 131-2
- CANopen interface according to DS 301 version 3.0, DS 401
- 4 digital inputs for DC 24 V
- 4 relay outputs
- LED indicators
- 52.5 mm width

Circuit Diagram



Approvals and Markings



Application

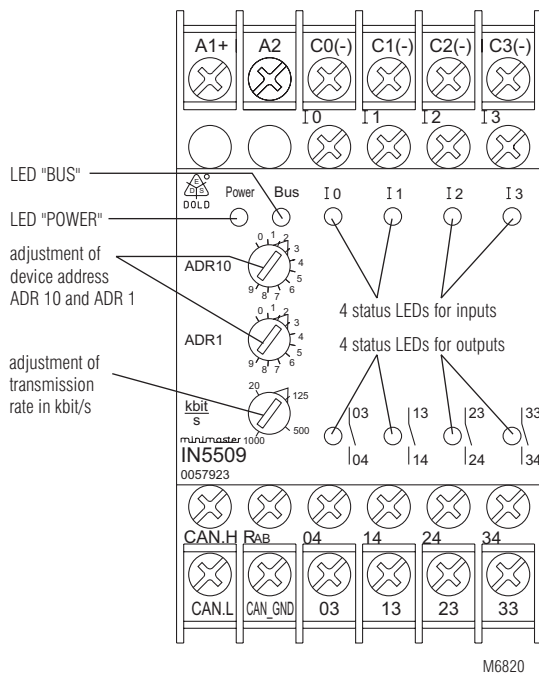
The digital input modules collect signals of a control circuit from limit switches, push buttons, sensors etc. With the relay outputs the signals for a control system are switched. The IN 5509 is used in industrial control circuits and building automation.

Indicators

- | | |
|---|--|
| yellow LED "Power": | on, when supply connected |
| yellow LED "BUS": | on, when BUS is aktive, pulsing when bus is inactive |
| green status LEDs I ₀ ... I ₃ : | on, when input active |
| red LEDs: | on, when output relay active |

IN 5509.23

Setting and Adjustment



CANopen-mode

The configuration is made with the programming software PN 5501 in conjunction with minimaster IL 5504 / IN 5504 or e.g. with ProCANopen. The corresponding configuration file on CD can be ordered under order no. PN 5501, article no. 0052860

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 K bit / s)
4. Adjust device addresses
5. Configure bus

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 separation
IN 5509.23: 4 digital inputs IEC/EN 61 131-2
Input voltage
IN 5509.23/1_ _: DC 24 V
according to ISO 11898-1, galvanic separated

CANopen interface

Wire: screened twisted pair
Transmission speed: adjustable 20 kbit/s, 125 kbit/s, 500 kbit/s, 1 Mbit/s,

	IN 5509.23	IN 5509.23/100
max. buslength:	20 kbit/s 2500 m	2500 m
	125 kbit/s 500 m	500 m
	500 kbit/s 100 m	90 m
	1 Mbit/s 25 m	15 m

Attention:



Both ends of the 2-wire bus have to be terminated with a bridge between CAN_H and R_{ab}.

Output

Contacts
IN 5509.23: 4 NO contacts IEC/EN 61 131-2
Thermal current I_{th} : 2 A
Switching capacity
to AC 15: 3 A / AC 230 V IEC/EN 60 947-5-1
Schaltleistung
at AC 230 V: 460 VA
at DC 24 V: 48 W
Short circuit strength
max. fuse rating: 4 A gL IEC/EN 60 947-5-1
Mechanical life: >10⁸ switching cycles

General Data

Operating mode: Continuous operation
Temperatur range: - 20 ... + 60°C
Clearance and creepage distances
rated impulse voltage /
pollution degree: 4 kV / 2 IEC 60 664-1
EMC
Electrostatic discharge: 8 kV (air) IEC/EN 61 000-4-2
HF-irradiation: 10 V / m IEC/EN 61 000-4-3
Fast transients: 2 kV IEC/EN 61 000-4-4
Surge voltages between
wires for power supply: 1 kV IEC/EN 61 000-4-5
between wire and ground: 2 kV IEC/EN 61 000-4-5
HF-wire guided: 10 V IEC/EN 61 000-4-6
Interference suppression: Limit value class B EN 55 011
Degree of protection
Housing: IP 40 IEC/EN 60 529
Terminals: IP 20 IEC/EN 60 529
Housing: Thermoplast mit V0 behaviour
according to UL subject 94
Vibration resistance: Amplitude 0.35 mm
frequency 10 ... 55 Hz IEC/EN 60 068-2-6
Climate resistance: 20 / 060 / 04 IEC/EN 60 068-1
Terminal designation: EN 50 005
Wire connection: 2 x 2.5 mm² solid or
2 x 1.5 mm² stranded ferruled
DIN 46 228-1/-2/-3/-4
Wire fixing: Terminal screws M3.5, box terminals
with wire protection
Mounting: DIN rail IEC/EN 60 715
Weight: 180 g

Dimensions

Width x height x depth: 52.5 x 90 x 58 mm

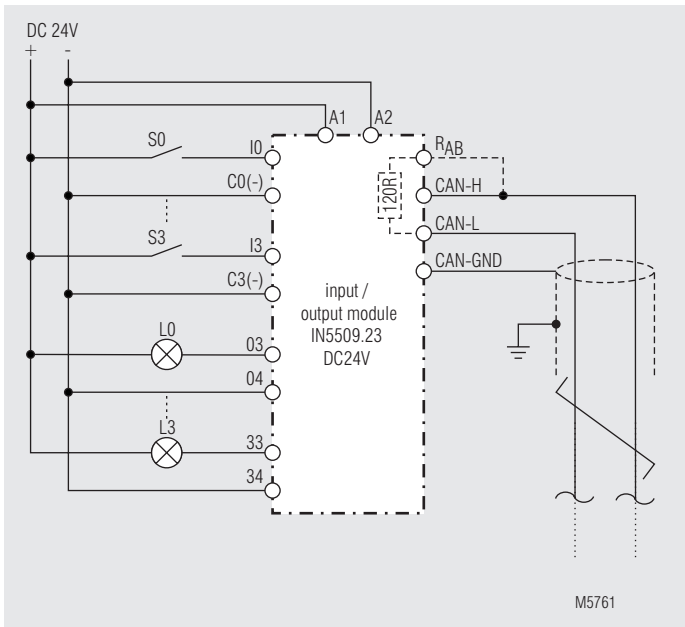
Standard Type

IN 5509.23/100 DC 24 V
Article number: 0055929
• 4 Digital inputs
• 4 Relay outputs
• Nominal voltage U_N : DC 24 V
• Width: 52.5 mm

Accessories

- CANopen PLC IL 5504
- Input / Output Module IN 5509
- Input Module, Digital IP 5502
- Output Module, Digital IP 5503
- Input Module, Analogue IL 5508
- Output Module, Analogue IL 5507

Application Example



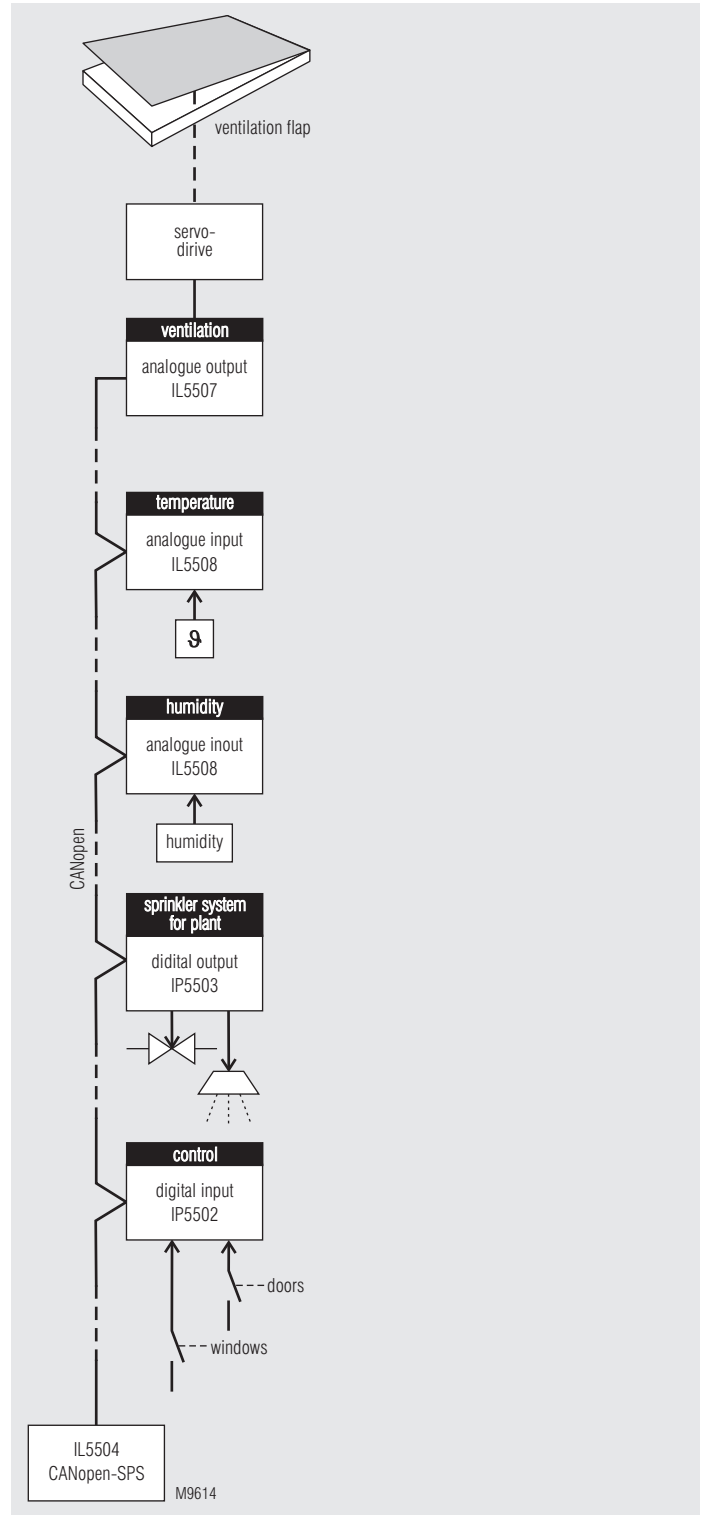
CAN-signals

CAN-H:	CAN_H bus line (dominant high)
CAN-L:	CAN_L bus line (dominant high)
R _{AB} :	Termination resistor 120 Ω
CAN-GND:	reference potential of CAN-transceiver

Notes for wiring

- Mixed networks, or networks that are not galvanically separated
 - CAN-GND is connected between all devices (CIA DRP 303-1).
 - if no 3rd wire is available in the bus cable, the screen of the cable can be used. In this case the screen has to be connected to PE at one point.
- Galvanic separated networks
 - if the networks are completely separated CAN-GND must not be wired (CIA DRP 303-1). The screen is connected to PE.
- An equalisation of potentials between units in far distance has to be provided.
- The CAN-bus must be terminated at the first and last device on the bus with a 120 Ω resistor, e.g. insert a link on terminals R_{AB} and CAN-H.

Application Example



CANopen-application for greenhouses: dependend on temperature- and humidity ventilation flap applications and sprinkler systems for plants in a greenhouse.

