

CANSAS-DO16

Module with **16 digital outputs**



The **CANSAS DO16** family of modules provides 16 digital outputs. The outputs are configurable in two 8-bit groups, either as Open-Drain or Totem-Pole.

Order code:	Article #
CANSAS-DO16	1050011
CANSAS-K-DO16	1050077

2 different models available:

CANSAS-DO16

Unventilated strand-cast aluminum housing (Short model, 2 x DSUB signal terminals)
35 x 111 x 90 (W x H x D in mm)
Weight typ. 300 g

CANSAS-K-DO16

Unventilated cassette, 3U/8HP (Cassette model)
for installation in the imc 19" subrack
CAN-Bus and supply are connected with the module via the 19" subrack
Signal correction via Phoenix spring cage terminal block
Weight typ. 900 g

Refer also to the document "*CANSAS Installation and Assembly*" for information on the models and module racks.

Interconnections at normal strand-cast aluminium housings and cassette models

- CAN-Bus connected via 2 DSUB-9 terminals; CAN IN (male), CAN OUT (female)¹
CAN-Bus Interface up to 1Mbit/s,
(equipped in accordance with the CiA® Draft Standard 102 Version 2.0, CAN Physical Layer for Industrial Applications)
- Signal connection at the module: 2 x 15 pin DSUB terminals (8 digital outputs at each plug)
With the CANSAS-K-DO16 model: signal connection by means of Phoenix spring cage terminal block (0,14 mm² -1 mm²)
- Power supply: Phoenix (MC1, 5/4STF-3,81) socket (CAN/Power-Plug)¹

¹ not with cassette model

Interconnections at SL strand-cast aluminium housings

- CAN-Bus connected via 2 x 10 pin LEMO terminals (type HGA.1B.310); CAN IN (male), CAN OUT (female)
CAN-Bus Interface up to 1Mbit/s,
(equipped in accordance with the CiA® Draft Standard 102 Version 2.0, CAN Physical Layer for Industrial Applications)
- Power supply via 6 pin LEMO terminal (type HGA.1B.306)
- Signal connection at the module:
 - 2 x 15 pin DSUB terminals (8 digital outputs at each plug)

Power supply for normal strand-cast aluminium housings and cassette models

- Supply voltage: 9..32 V DC via 4 pin Phoenix plug or via CAN-bus plug ¹
- Automatic independent power-up upon application of supply voltage
- Power consumption 4,0 W (typ.)

Power supply for SL strand-cast aluminium housings

- Supply voltage: 9..32 V DC via 6 pin LEMO or via CAN-bus plug
- Automatic independent power-up upon application of supply voltage
- Power consumption 4,0 W (typ.)

Operating conditions for normal strand-cast aluminium housings and cassette models

- Operating temperature: -30°C...85°C condensation allowed
- Shock resistance 50 g pk over 5 ms (without plug)

Operating conditions for SL strand-cast aluminium housings

- Operating temperature: -30°C...85°C condensation allowed
- Shock resistance: MIL STD810F (without plug)
- Protection class IP65

Included accessories

- Calibration certificate as per DIN EN ISO 9001
- Instructions manual
- With strand-cast aluminum housing: Connection terminal for power supply via Phoenix socket or via LEMO socket with gum sealing ring at SL models

Signal properties:

- Integrated DSP for controlling signal output:
Output control by means of CAN-message (software-configurable)
Output of computed signal plots, the calculating algorithm is set by means of the configuration software.
- The outputs' state upon activation is defined (Low as initial value)
- Outputs are independently configurable for each 8-bit channel group either as Open-Drain or Totem-Pole.

Special properties

- The module can send a CAN-Bus message at intervals ("heartbeat"). This periodic message can serve the purpose of monitoring whether the correct module is being used with the correct configuration.
- The module can wait for periodic reception of a message having a particular identifier, and assume a configurable state if this message fails to appear when expected ("guarding"). This provides protection against failure of the control signal sender.
- The module's configuration can be exported by the software; this makes it possible to transfer configurations made by others by means of just the module.
- With the Long and Cassette models, the module is able to export slot information in the rack and to notify an automation program.

Optional Accessories**Connectors:**

- **ACC/DSUB-DO16**, connector for 8 outputs (8bit)
- **ACC/DSUB-DO16-IP65**, connector for 8 outputs (8bit) adapted for CANSAS-SL-DO16-D

Additional options and accessories

- Depending on the model, the modules can be either attached together to form stacks or installed in racks; see the document "*CANSAS Installation and Assembly*" for more on these options.
- The connectors necessary for the signals are described in "*CANSAS Signal Connection Terminals*".
- The modules can be configured for CAN-network applications either by order at factory, or by the customer using appropriate configuration software. The necessary software as well as cables and additional accessories are presented in the documentation "*Integrating CANSAS in CAN-Networks*".

DO16

Technical Specs (16 digital outputs)

Parameter	Value (typ./max.)	Remarks
Channels	16 (2x8)	Each 8-channel-group isolated to the other group as well as to power supply and CAN-bus. No isolation within bank. Separate voltage supply for each bank of 8 channels
Configuration options	Open-Drain Totem-Pole	configurable independently for each 8-bit channel group
Max. output level	5 V max. 30 V	internal supply external supply
Output current	High-level: 15-20 mA Low-level: 700 mA	Low-level: < 0,4 V
Power-up default	High-impedance High	configured as Open-Drain configured as Totem-Pole
Switching time	100 µs	
CAN-Bus	defined according to ISO 11898	
isolation: CAN-Bus power supply input digital outputs	±60 V ±60 V ±60 V	to CHASSIS nominal; testing: 300 V (10 s) nominal; testing: 300 V (10 s) nominal; testing: 300 V (10 s)
Externally available power supply	5 V/30 mA per connector	available in addition to the output stages
Supply voltages	9..32 V DC	
Power consumption	4 W (typ.)	12 V supply, 23 °C
Operating temperature	-30°C...85°C	
Dimensions (W x H x D)	35 x 111 x 90 mm 41 x 128 x 145 mm 38 x 112,5 x 152 mm	CANSAS-DO16 CANSAS-K-DO16 (8HP) CANSAS-SL-DO16-D
Weight	300 g	
Connection terminals	2 x DSUB-15 Phoenix spring cage terminal block 2 x DSUB-9 PHOENIX (MC 1,5/4STF-3,81)	CANSAS-DO16 outputs CANSAS-K-DO16 outputs CAN (in/out) Supply
Connection terminals at SL	2 x DSUB-15 2 x 10-pin LEMO (HGA.1B.310) 1 x 6-pin LEMO (HGA.1B.306)	outputs CAN (in/out), supply (alternatively) Supply