

Decentralized CAN Modules



Digital input/output modules DIOxxx-C

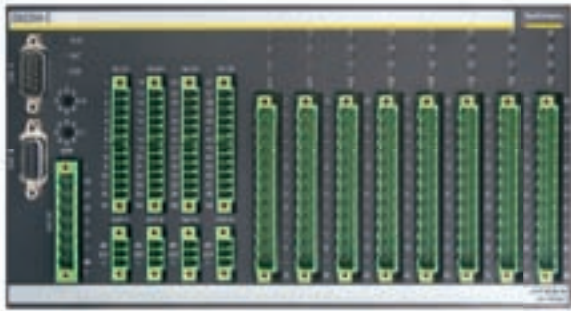
The digital I/O modules DIO16-C, DIO32-C, DIO48-C or DIO264-C are stand-alone CAN slave modules with 16, 32, 48 or 64 digital input/output channels.

- Stand-alone, compact CAN slave module
- 16/32 channels, individually configurable as input or output
- Digital outputs with 1 A constant current
- Supply voltage 18 .. 34 VDC
- Operating range 0 .. 60 °C without additional cooling
- Full wiring without additional backplanes
- Snappable onto EN 50022 backplanes

Article No.	Order No.
DIO16-C	B-10285/00
DIO32-C	B-10129/00
DIO48-C	B-10526/00
DIO264-C	B-09205/00

DIOxxx-C	DIO16-C	DIO32-C	DIO48-C	DIO264-C
Inputs				
Quantity	max. 16	max. 32	max. 48	max. 64
Input delay	< 3.5 ms	< 3.5 ms	< 3.5 ms	< 3.5 ms
Input resistance	6 k Ω	6 k Ω	6 k Ω	6 k Ω
State indicating LED	green LED	green LED	green LED	green LED
Outputs				
Quantity	max. 16	max. 32	max. 32	max. 32
Supply voltage	18 .. 34 VDC	18 .. 34 VDC	18 .. 34 VDC	18 .. 34 VDC
Isolated output blocks	1-16	1-16, 17-32	1-16, 17-32	1-16, 17-32
Rated output current	1 A	1 A	1 A	1 A
Output current (sum/group)	max. 12 A	max. 12 A	max. 8 A	max. 8 A
Switching frequency	max. 500 Hz	max. 500 Hz	max. 500 Hz	max. 500 Hz
Short circuit proof	yes	yes	yes	yes
State indicating LED	green LED	green LED	green LED	green LED
Interface				
Transfer rate (KBaud)	10 .. 1000	10 .. 1000	10 .. 1000	10 .. 1000
Connection	2x 9-pin DSub	2x 9-pin DSub	2x 9-pin DSub	2x 9-pin DSub
Module ID	1 .. 254	1 .. 254	1 .. 254	1 .. 254
Galvanic isolation	yes	yes	yes	yes
Termination resistance	123 Ω , ext.	123 Ω , ext.	123 Ω , ext.	123 Ω , ext.
External power supply				
Supply voltage	18 .. 34 VDC			
Current consumption (without I/O)	normally 100 mA at 24 V			
CAN Protocols				
CAL/CANopen	DS 301 communication profile, DS 401 device profile			
Status LED	RUN (guarding), INIT, ERROR			
Models				
DIO16-C	16 input/output channels			
DIO32-C	32 input/output channels			
DIO48-C	16 digital inputs and max. 32 digital inputs/outputs			
DIO264-C	32 digital inputs and max. 32 digital inputs/outputs			

Decentralized CAN Modules



Analog and digital input/output module DA3284-C

The CAN bus compact module DA3284-C offers an outstanding compact design and a sophisticated mix of possible signal types. As a stand-alone fieldbus module (CANopen) it offers the complete I/O range already integrated for small applications or decentralized signal termination point. It is the ideal addition to the known family of CAN digital modules and is an optimum "All-In-One" peripheral for small applications, such as those based on the control terminals CT300 / CT200 of Bachmann electronic.

The combined DA3284-C digital and analog module unites all the relevant signal types with large channel numbers in one device for greater future security. The channel-specific programmable mode (on/off or applied standard signal) enables the unit to be adapted ideally to a wide range of applications without any interface converter. As well as the robust design and processing quality, its outstanding technical specifications, seldom available from the usual fieldbus peripherals, are highly impressive.

- Compact CAN slave I/O module
- 8 analog inputs ± 10 V, ± 1 V, Pt100, Pt1000, 0 (4) .. 20 mA
- 4 analog outputs ± 10 V or 0 (4) .. 20 mA configurable
- 16 digital inputs
- 16 digital inputs or outputs (can be configured individually)
- 2 integrated counter inputs
- Digital outputs each with 0.5 A continuous current
- Error detection for digital and analog channels
- Operating range $-20 \dots +60^\circ\text{C}$ without additional cooling
- Full wiring without additional backplanes
- Powerful 32 bits processor for fast cycle times

Article No.	Order No.
DA3284-C	B-13597/00

DA3284-C	
Analog inputs	
Quantity	8
Measuring ranges, selectable by channel	±10 V, ±1V Pt100, Pt1000: -100°C .. +500°C 0 (4) .. 20 mA
Resolution	14 bits
Scan rate	< 1 ms for all channels (500 µs)
Input frequency	750 Hz (3 dB)
Base accuracy at 25°C	voltage 0.05 % current/Pt100/Pt1000 0.1 %
Error detection	cable break
Analog outputs	
Quantity	4
Measuring ranges, selectable by channel	±10 V, 0 (4) .. 20 mA configurable
Resolution	14 bits
Conversion time	depending on CAN protocol
Base accuracy at 25°C	voltage 0.05 % current 0.2 %
Error detection	load error
Digital inputs	
Quantity	16 (max. 32)
Input delay	3 ms default, filter adjustable
Acc. to IEC 61131	type 1
State indicating LED	green LED
Connection type	3-wire (+/-/signal)
Counter	
Counter channels	2 (digital input channels 1 and 2)
Counter frequency	max. 2 kHz
Counter functions	counting, speed measurement (period duration, gate time)
Counting modes	- continuous up/down - single up/down to/from reference value - periodic up/down to/from reference value
Digital outputs	
Quantity	16
Supply voltage	18 .. 34 VDC
Isolated output blocks	1 .. 12, 13 .. 24
Nominal output voltage	0.5 A
Output current max./block	max. 8 A / 4 A per block
Switching frequency	500 Hz (with purely resistive load)
Short circuit proof	yes

Decentralized CAN Modules

Continuation

Analog and digital input/output module DA3284-C

DA3284-C	
Digital outputs	
Error detection	short circuit / overtemperature by block power supply per block ≤ 16.5 V
State indicating LED	green LED
Connection type	3-wire (+/-/signal)
CAN interface	
CANopen	DS 301 communication profile, DS 401 device profile
Status LEDs	RUN (guarding), INIT, ERROR
Transfer rate (Kbaud)	10 .. 1000 (adjustable via rotary switch)
Connection	2x 9-pole DSub
Module ID	1 .. 127 (configurable via rotary switch or SW)
Galvanic isolation	yes
Termination resistance	123 Ω, ext.
Input/output connection technology	
Connection for digital inputs/outputs and power supply	Phoenix Contact COMBICON RM 5.8 connector with flange
Connection type for digital inputs/outputs and power supply	screw clamp, spring tension clamp, crimp
Connection for analog inputs/outputs	Phoenix Contact MINI COMBICON RM 3.5 connector with flange
Connection for analog inputs/outputs	screw clamp, spring tension clamp
Connection general	plug codable, labelling by channels
Operating conditions	
Supply voltage	18 .. 34 VDC
Temperature range	-20 .. +60°C operation -40 .. +85°C storage
Mounting	snappable on backplane according to DIN 50022
Mounting position	horizontal (vertical at 0 .. +55°C operating temperature)
Galvanic isolation CAN bus module	500 V _{RMS}
Galvanic isolation I/O channels	none
Models	
DA3284-C	Digital 16 inputs, digital 16 inputs/outputs, analog 8 inputs, analog 4 outputs

Decentralized CAN Modules



Temperature I/O modules TCO2xx-C

The temperature I/O modules TCO204-C, TCO208-C and TCO216-C are stand-alone CAN slave modules with 4, 8 or 16 thermocouple inputs and 8, 12 or 24 digital outputs.

- Stand-alone, compact CAN slave module
- Thermocouple inputs for thermocouple types J and K
- Measuring range 0 .. 500°C/800°C configurable
- Digital outputs with max. 1 A each
- Supply voltage 18 .. 34 VDC
- Operating range 0 .. 60°C
- Snappable on backplanes acc. to EN 50022

Article No.	Order No.
TCO204-C	B-10851/00
TCO208-C	B-10850/00
TCO216-C	B-08673/00

TCO2xx-C	
Thermocouple inputs	
Quantity	4/8/16
Thermocouple types	J or K, selectable per input
Measuring range	0 .. 500°C/800°C configurable
Resolution	12 bits
Linearization	polynomial according to DIN IEC 584
Cold spot compensation	0 .. 133°C (K)
Sample time	16 ms
Sensor fault detection	yes
Digital outputs	
Quantity	8/12/24
Supply voltage	18 .. 34 VDC
Output current per channel	0.5 A (max. 1 A)
Output current (sum)	max. 8/12/12 A
Switching frequency	max. 500 Hz at 1 k Ω resistive load
Short circuit proof	yes
State indicating LED	green LEDs
CAN Interface	
Transfer rate	10 K .. 1 Mbaud
Connection	2x 9-pin DSub connectors
Module ID	1 .. 254
Galvanic isolation	yes (interface towards I/O)
Termination resistance	123 Ω , ext.
Status LEDs	RUN (guarding), INIT, ERROR
Communication profile	CiA DS 301
Device profile	CiA DS 401
External power supply	
Supply voltage	18 .. 34 VDC
Current consumption (without I/O)	normally 105/110/120 mA at 24 VDC
Models	
TCO204-C	CAN bus module 4 temperature In, 8 digital Out 24 V, NT, casing, isolated
TCO208-C	CAN bus module 8 temperature In, 12 digital Out 24 V, NT, casing, isolated
TCO216-C	CAN bus module 16 temperature In, 24 digital Out 24 V, NT, casing, isolated