

Z-PC Line

HIGH PERFORMANCE I/O CANOPEN SYSTEM



Z-PC line is a complete line of I/O modules with CANopen standard interface that does not require any couplers, controllers, or repeaters. All modules have an integrated interface with CANopen communication, speeds up to 1 Mbps, and they are ideal for acquisition and control signals for system and machines where the distance between signals plays a key role. Z-PC line CANopen modules can be integrated with third parts configurators and master controllers / network managers, even on board existing machines and installations.

The advantage of not needing a fine line coupler dramatically reduces the cost for small/medium installations.

I/O

I/O MODULES RANGE

I/O Modules for analog input (8), thermocouples and thermoresistance (4/8), digital input/output (16/24), analog output (3), load cells (1) etc.



CPU / INTERFACES

- Web server multi-function controller, datalogger with CAN interfaces, Ethernet,
- RS232/RS485, ModBUS RTU
- CANopen fiber optic / fiber optic repeater



SETTINGS

- IEC 61131 programming system (CoDeSys)
- EASY SETUP suite (plug & play software) by RS232
- DIP switches (address, baud rate)

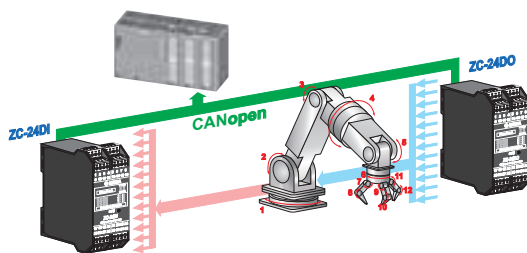


HIGH PERFORMANCE

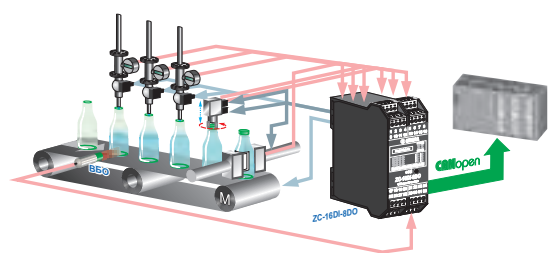
- High accuracy: 0,1..0,05%
- Isolation: 1,5Vac (3 way)
- Baud rate: up to 1 Mbps
- Response time for digital channel: 1 ms
- Response time for analog channel: 1 ms
- Power supply up to 8 sensors

APPLICATION NOTE

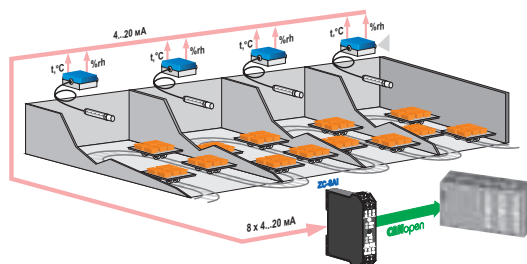
HANDLING SYSTEM



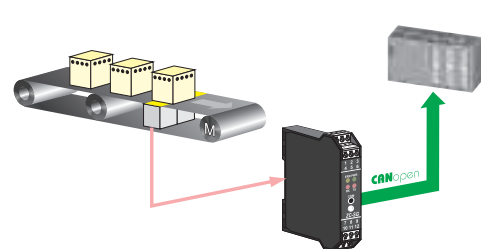
AUTOMATIC BOTTLING SYSTEM








CONTROL OF PROCESS PARAMETERS









CONTROL OF CONVEYOR BELT



DIGITAL I/O MODULES

	ZC-24DI	ZC-24DO	ZC-16DI-8DO
 	 24-CH digital input CANopen - MODBUS module	 24-CH digital output CANopen - MODBUS module	 16-CH digital input, 8-CH digital output CANopen - MODBUS module
GENERAL DATA			
Power supply	10..40 Vdc / 19..28 Vac	10..40 Vdc / 19..28 Vac	10..40 Vdc / 19..28 Vac
Power Consumption	2,5 W	2,5 W	2,5 W
Operating Temperature	-10..-65°C	-10..-65°C	-10..-65°C
Status Indicators	Power supply Input State Communication	Power supply Input State Communication	Power supply Input State Communication
Isolation	1.5 kVac (3 way)	1.5 kVac (3 way)	1.5 kVac (3 way)
Communication Time	2,5 ms	1,2 ms	1,2..2,5 ms
Housing	Nylon 6 with 30% glass-fiber, V0 self-extinguished class	Nylon 6 with 30% glass-fiber, V0 self-extinguished class	Nylon 6 with 30% glass-fiber, V0 self-extinguished class
Connections	Removable screw terminals, IDC10 connector for Z-PC-DIN backplane 3.5 mm RS232, front jack	Removable screw terminals, IDC10 connector for Z-PC-DIN backplane 3.5 mm RS232, front jack	Removable screw terminals, IDC10 connector for Z-PC-DIN backplane 3.5 mm RS232, front jack
Protection Degree	IP20	IP20	IP20
Configuration	DIP switches (baud rate, Node ID) EDS file IEC 61131	DIP switches (baud rate, Node ID) EDS file IEC 61131	DIP switches (baud rate, Node ID) EDS file IEC 61131
Protocols supported	CAN bus standard (2.0A, 2.0B) CANopen (profile CiA 401v.2.01) ModBUS RTU (Through RS485)	CAN bus standard (2.0A, 2.0B) CANopen (profile CiA 401v.2.01) ModBUS RTU (Through RS485)	CAN bus standard (2.0A, 2.0B) CANopen (profile CiA 401v.2.01) ModBUS RTU (Through RS485)
CANopen max speed	1Mbps	1Mbps	1Mbps
Special functions	CANopen/ModBUS protocol switching	CANopen/ModBUS protocol switching	CANopen/ModBUS protocol switching
Norms & Approvals	CE, EN 61000-6-4, EN 64000-6-2, EN 61010-1 CAN 2.0A, 2.0B CiA 401 v.2.01 IEC EN 61131-2	CE, EN 61000-6-4, EN 64000-6-2, EN 61010-1 CAN 2.0A, 2.0B CiA 401 v.2.01 IEC EN 61131-2	CE, EN 61000-6-4, EN 64000-6-2, EN 61010-1 CAN 2.0A, 2.0B CiA 401 v.2.01 IEC EN 61131-2
INPUT DATA			
Channels	24 (with shared common powered at 16Vdc)		16 (with shared common powered at 16Vdc)
Polarity	EN 61131-2 type 2, synq (pnp)		EN 61131-2 type 2, synq (pnp)
Counters	Nr.8 @ 32 bit, Max Freq. 10 KHz Increment individual configurable, reset, preset Overflow indication		Nr.8 @ 32 bit, Max Freq. 10 KHz Increment individual configurable, reset, preset Overflow indication
Vmax	30V		30V
Minimum pulse width	250µs		250µs
ON/OFF delay	< 3ms		< 3ms
TPDO	< 1ms		< 1ms
OUTPUT DATA			
Channels		24	8
Type		Mosfet (open source) with shared common	Mosfet (open source) with shared common
Power Supply Voltage		5..30 Vdc	5..30 Vdc
Maxim Current		0.5A (connection from terminals) 25mA (connection from connectors)	0.5A (connection from terminals) 25mA (connection from connectors)
ON/OFF delay		< 1ms	< 1ms
RPDO		<1,25MS	<1,25MS
CANOPEN FEATURES			
NMT	Slave	Slave	Slave
Error Control	Node Guarding	Node Guarding	Node Guarding
Node ID	Free software, DIP switches	Free software, DIP switches	Free software, DIP switches
Nr.PDO	RX 5	RX 5	RX 5
PDO modes	Event triggered - Synq (cyclic) - Synq (acyclic)	Event triggered - Synq (cyclic) - Synq (acyclic)	Event triggered - Synq (cyclic) - Synq (acyclic)
PDO linking	yes	yes	yes
PDO mapping	variable	variable	variable
Nr. SDO server	1	1	1
Emergency message	yes	yes	yes
Application layer	CiA 301 v4.02	CiA 301 v4.02	CiA 301 v4.02
Profile	CiA 401 v2.01	CiA 401 v2.01	CiA 401 v2.01
ORDER CODES			
Code	ZC-24DI	ZC-24DO	ZC-16DI-8DO
Software & Accessories	Page 31	Page 31	Page 31

ANALOG I/O MODULES

	ZC-8AI	ZC-3AO	ZC-4RTD	ZC-8TC	ZC-SG
					
	8-CH analog input / CANopen module	3-CH analog output / CANopen module	4-CH rtd input / CANopen module	8-CH thermocouple input / CANopen module	Strain gauge input / CANopen module
GENERAL DATA					
Power supply	10..40 Vdc / 19..28 Vac	10..40 Vdc / 19..28 Vac	10..40 Vdc / 19..28 Vac	10..40 Vdc / 19..28 Vac	10..40 Vdc / 19..28 Vac (strain gauge powered by the instrument)
Power Consumption	5 W	2,5 W	1 W	1 W	2 W
Power Transducers	up to 8 (22 mA @ 16.5 V) 2/3 wires				5 Vdc , up to 4/8 load cells
Isolation	1.5 kVac (6 way)	1.5 kVac (5 way)	1.5 kVac (6way)	1.5 kVac (6 way)	1.5 kVac (3 way)
Input protection	Against ESD discharge up to 4kV	Against ESD discharge up to 4kV	Against ESD discharge up to 4kV	Against ESD discharge up to 4kV	Against ESD discharge up to 4kV
Status Indicator	Power - Communication Fault input	Power - Communication Fault input	Power - Communication Fault input	Power - Communication Fault input	Power - Communication Fault input
Response Time	< 28 ms	< 7 ms	< 28ms	< 28ms	< 7 ms
Accuracy	0,05%	0,01%	0,05%	0,10%	0,01%
A/D Resolution	14 or 15 bit	14 bit	13 or 14 bit	15 bit	ADC 24bit
Thermal Drift	<100 ppm/°C	<100 ppm/°C	<50 ppm/°C	<100 ppm/°C	<25 ppm/°C
Dimension	17,5 x 110 x 112 mm	17,5 x 110 x 112 mm	17,5 x 110 x 112 mm	17,5 x 110 x 112 mm	17,5 x 110 x 112 mm
Housing	Nylon 6 with 30% glass-fiber, V0 self-extinguished class	Nylon 6 with 30% glass-fiber, V0 self-extinguished class	Nylon 6 with 30% glass-fiber, V0 self-extinguished class	Nylon 6 with 30% glass-fiber, V0 self-extinguished class	Nylon 6 with 30% glass-fiber, V0 self-extinguished class
Weight	About 170 g	About 170 g	About 170 g	About 170 g	About 170 g
Operating Temperature	-10..+65°C	-10..+65°C	-10..+65°C	-10..+65°C	-10..+65°C
Connections	Removable screw terminals, IDC10 connector for Z-PC-DIN backplane 3.5 mm RS232, front jack	Removable screw terminals, IDC10 connector for Z-PC-DIN backplane 3.5 mm RS232, front jack	Removable screw terminals, IDC10 connector for Z-PC-DIN backplane 3.5 mm RS232, front jack	Removable screw terminals, IDC10 connector for Z-PC-DIN backplane 3.5 mm RS232, front jack	Removable screw terminals, IDC10 connector for Z-PC-DIN backplane 3.5 mm RS232, front jack
Protection Degree	IP20	IP20	IP20	IP20	IP20
Configuration	DIP switches (baud rate, Node ID)	DIP switches (baud rate, Node ID) - EDS file - IEC 61131	DIP switches (baud rate, Node ID) - EDS file - IEC 61131	DIP switches (baud rate, Node ID) - EDS file - IEC 61131	DIP switches (baud rate, Node ID) - EDS file - IEC 61131
Protocols supported	EDS file IEC 61131 CAN bus standard (2.0A, 2.0B) CANopen (profile CiA 401 v.2.01)	EDS file IEC 61131 CAN bus standard (2.0A, 2.0B) CANopen (profile CiA 401 v.2.01)	EDS file IEC 61131 CAN bus standard (2.0A, 2.0B) CANopen (profile CiA 401 v.2.01)	EDS file IEC 61131 CAN bus standard (2.0A, 2.0B) CANopen (profile CiA 401 v.2.01)	EDS file IEC 61131 CAN bus standard (2.0A, 2.0B) CANopen (profile CiA 401 v.2.01)
CANopen max speed	1Mbps	1Mbps	1Mbps	1Mbps	1Mbps
Norms & Approvals	CE, EN 61000-6-4, EN 64000-6-2, EN 61010-1 CAN 2.0A, 2.0B CiA 401 v.2.01 IEC EN 61131-2	CE, EN 61000-6-4, EN 64000-6-2, EN 61010-1 CAN 2.0A, 2.0B CiA 401 v.2.01 IEC EN 61131-2	CE, EN 61000-6-4, EN 64000-6-2, EN 61010-1 CAN 2.0A, 2.0B CiA 401 v.2.01 IEC EN 61131-2	CE, EN 61000-6-4, EN 64000-6-2, EN 61010-1 CAN 2.0A, 2.0B CiA 401 v.2.01 IEC EN 61131-2	CE, EN 61000-6-4, EN 64000-6-2, EN 61010-1 CAN 2.0A, 2.0B CiA 401 v.2.01 IEC EN 61131-2
INPUT DATA					
Channels	8 (4 isolation zones)		4, RTD with 2,3,4 wires, fully isolation	8 (thermocouples or mV)	1
Type	Voltage : 0-10V Current : 0-20 mA		PT100 (EN 60751/A2-ITS90), -200..+650°C PT500 (EN 60751/A2-ITS90), -200..+750°C PT1000 (EN 60751/A2-ITS90), -200..+210°C Ni100 (EN 60751/A2-ITS90), -60..+250°C	Thermocouple Type: J, K, E, N, S, R, B, T; EN 60584-1 (ITS-90) Span mV: -10,1 mV..+81,4 mV Impedance: 10 MΩ	ANALOG INPUT Input type: 6/4 wires differential measurement input Load cells (strain gauge), Voltage supply: 5Vdc Min impedance: 87Ω Sensitivity from ±1 to ±64 mV/V Full Scale : ±5.. ±320 mV DIGITAL INPUT Tare calibration and span (max 30 V)
OUTPUT DATA					
Channels		3			1
Type		Voltage : ±10V Current : 0-20, 4..20 mA			Digital Nr.1 channel for stable weight or threshold (max 30 V, 50 mA)
CANOPEN FEATURES					
NMT	Slave	Slave	Slave	Slave	Slave
Error Control	Node Guarding	Node Guarding	Node Guarding	Node Guarding	Node Guarding
Node ID	Free software - DIP switches	Free software - DIP switches	Free software - DIP switches	Free software - DIP switches	Free software - DIP switches
Nr.PDO	RX 5	RX 5	RX 5	RX 5	RX 5
PDO modes	Event triggered Synq (cyclic) - Synq (acyclic)	Event triggered Synq (cyclic) - Synq (acyclic)	Event triggered Synq (cyclic) - Synq (acyclic)	Event triggered Synq (cyclic) - Synq (acyclic)	Event triggered Synq (cyclic) - Synq (acyclic)
PDO linking	yes	yes	yes	yes	yes
PDO mapping	variable	variable	variable	variable	variable
Nr. SDO server	1	1	1	1	1
Emergency message	yes	yes	yes	yes	yes
Application layer	CiA 301 v4.02	CiA 301 v4.02	CiA 301 v4.02	CiA 301 v4.02	CiA 301 v4.02
Profile	CiA 401 v2.01	CiA 401 v2.01	CiA 401 v2.01	CiA 401 v2.01	CiA 401 v2.01
ORDER CODES					
Code	ZC-8AI	ZC-3AO	ZC-4RTD	ZC-8TC	ZC-SG
Software & Accessories	Page 31	Page 31	Page 31	Page 31	Page 31