Z-PC Line

CANopen

CiA 201 v. 2.01 profile

High performance distributed I/O system

CANOPEN FEATURES

Power supply	10..40 Vdc; 19..28 Vac
Isolation	1,5 kVac (3..6 way)
NMT	Slave
Error Control	Node guarding
Node ID	Hardware switch or software
PDO Modes	Event triggered, Synq (ciclico), Synq (aciclico)
PDO linking	Supported
PDO mapping	Variable
Error message	Yes
Number of SDO	1 Server
Error Message	Yes
Supported application layer	CiA 301 v4.02
Supported profile	CiA 401 v2.01

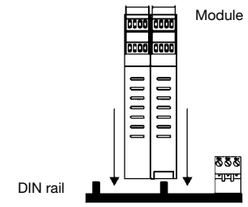
EDS [ELECTRONIC DATA SHEET]

```
;-------------------------
; Electronic Data Sheet Specification for CANopen
;
; CiA DSP 306
;   Version 1.2
;   Date: July 2004
;
;-------------------------
; Application Layer and Communication Profile
; CiA DS 301
; Version 4.01
; Date: 1 June 2000
;
;-------------------------
[FileInfo]
FileName=ZC-16DI8DO_R01.eds
FileVersion=1
FileRevision=1
EDSVersion=4.0
Description=ZC-16DI8DO EDS FILE
CreationTime=10:30AM
CreationDate=14-02-2008
CreatedBy=SENECA s.r.l.
ModificationTime=10:30AM
ModificationDate=14-02-2008
ModifiedBy=SENECA s.r.l.
```

- An EDS is an ASCII file in WIN.INI format, which is used by CANopen configuration tools to allow the user to configure devices.
- EDS configuration file (compliant to CiA DS-301) for each device, available on www.seneca.it
- Import / Export EDS file by CANopen manager
- EDS describes each object dictionary entry with address (main-/sub index), parameter name, data type, access type and default value.

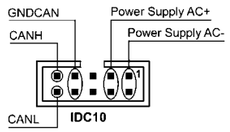
CONNECTION SYSTEM

1 DIN 46277 rail installation

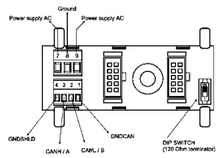


2 Electrical connection

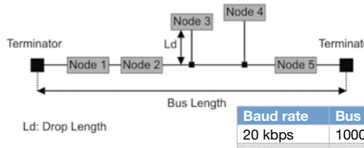
Rear Connector (IDC10)



Z-PC-DINAL terminal



3 CAN connection rules



Ld: Drop Length

Baud rate	Bus length	Drops length
20 kbps	1000 m	150 m
50 kbps	1000 m	60 m
125 kbps	500 m	5 m
250 kbps	250 m	5 m
500 kbps	100 m	5 m
800 kbps	50 m	3 m
1000 kbps	25 m	0.3 m

COMMUNICATION

- **TPDO response time to sinq:** < 1ms
- **Variable PDO mapping / linking performing very fast communication between slave**
- **Nr max nodes without repeater:** 127
- **Object oriented communication:** by PDO and SDO messages
- **Low priority (complex) services:** by SDO messages
- **PDO slave messages:** on event or synchronized

ORDER CODES

Code	Description
Z-TWS-3	Multi-function controller
Z-CANBUS	CAN Master interface, isolated repeater
ZC-107FO	CANopen fiber optic – bridge and repeater
ZC-24DI	24 CH digital input module
ZC-24DO	24 CH digital output module
ZC-16DI-8DO	16 CH digital input – 8 CH digital output module
ZC-8AI	8 CH analog input module
ZC-3AO	3 CH analog output module
ZC-4RTD	4 CH thermoresistance input module

Code	Description
ZC-8TC	8 CH thermocouple input module
ZC-SG	Strain gauge input module
Z-PC-DINAL2-17.5	17.5 Terminal block for power / bus + 17,5 mm 2 slot backplane bus
Z-PC-DIN2-17.5	7,5 mm step, 2 slot backplane bus
Z-PC-DIN8-17.5	17,5 mm step, 8 slot backplane bus
Z-PC-DINAL1-35	Terminal block for power / bus + 35 mm 1 slot backplane bus
Z-PC-DIN1-35	17,5 mm step, 1 slot backplane bus
Z-PC-DIN4-35	17,5 mm step, 4 slot backplane bus

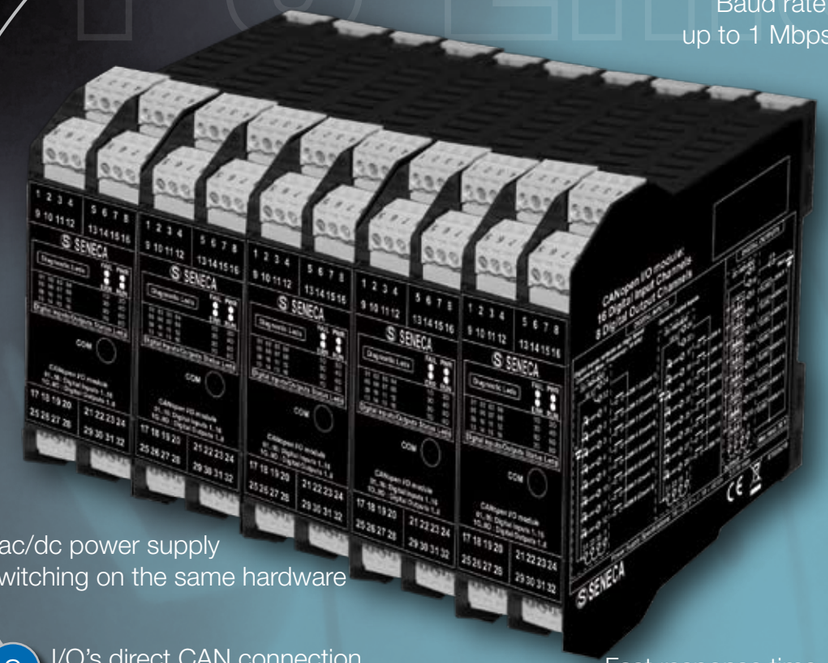
Z-PC_CAN_0809EN

1 Easy wiring via backplane (power and bus connection)

2 Very high accuracy up to 0,01%

3 Isolation: 1,5 kVac (up to 6 way)

4 Baud rate: up to 1 Mbps



5 Fast response time for digital channel ~ 1 ms

6 Fast response time for analog channel ~ 20 ms

7 Up to 8 powered sensors

8 I/O's direct CAN connection (without couplers / controllers)

9 Vac/dc power supply switching on the same hardware

Embedded / IC production, electrical distribution, technical buildings

Automotive, materials handling, transport systems

Assembly lines, printing, bending, packaging machines

Medical industry, food&beverage processing lines

INFORMATION

Product information & EDS: **www.seneca.it**
Catalogs: **www.seneca.it/downloads**
Sales information: **sales@seneca.it**

Technical support: **support@seneca.it**
CoDeSys: **www.automation-alliance.com**
CANopen: **www.can-cia.org**

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SENECA

High performance distributed I/O system

CANopen

PROGRAMMING & CONFIGURATION

- IEC 61131 programming system (CoDeSys)
- I/O modules EDS
- EASY suite (plug & play software) by RS32
- DIP switches (address, baud rate)

I/O DIGITAL MODULES

- ZC-24DI: 24 CH digital input / CANopen
- ZC-24DO: 24 CH digital output / CANopen
- ZC-16DI-8DO: 16 CH digital input / 8 CH digital output / CANopen

MODBUS / CANOPEN protocol switch

DIGITAL INPUT: IEC EN 61131-2 COMPLIANCE

COUNTERS: 32 bit, max 10 kHz

RESPONSE TIME ~ 1 ms

DIGITAL OUTPUT: MOSFET, MAX 500 mA per CHANNEL

I/O ANALOG MODULES

- ZC-8AI: 8 CH analog input / CANopen
- ZC-3AO: 3 CH analog output / CANopen
- ZC-4RTD: 4 CH RTD (P100, Ni100, Pt500, Pt1000) input / CANopen
- ZC-8TC: 8 CH Thermocouple (J,K,E,N,S,R,B,T) / CANopen
- ZC-SG: strain gauge input / CANopen

ACCURACY: UP TO 0,01%

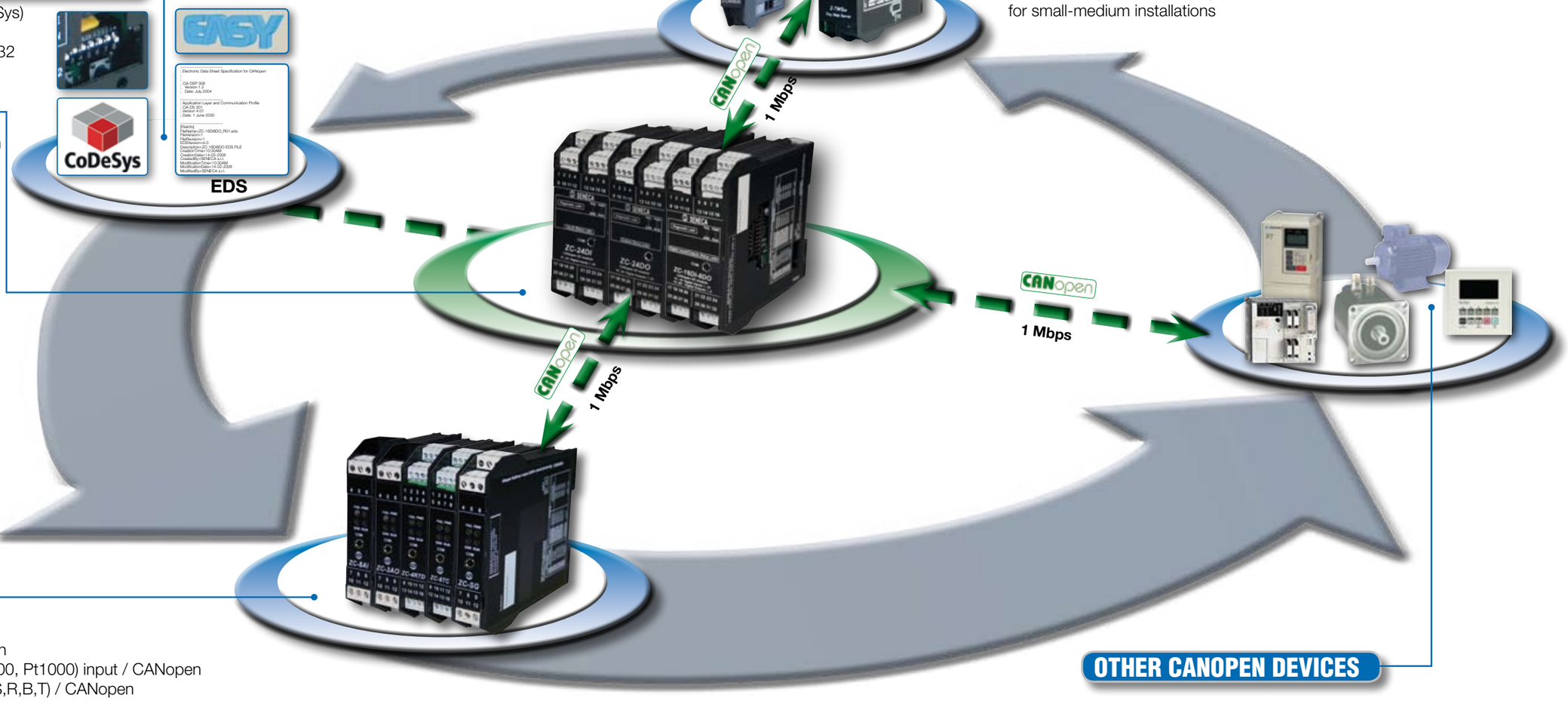
POWER TRANSDUCERS

RESPONSE TIME ~20 ms

TEMPERATURE RANGE:
Pt100: -200..+650°C • Pt500: -200..+750°C
Pt1000: -200..+210°C • Ni100: -60..+250°C
TC: J,K,E,N,S,R,B,T (EN 60584-1)

CPU & INTERFACES

- Z-TWS-3 Multi-function controller, CAN, Ethernet, RS232/RS485, ModBUS RTU port on board
- Z-CANBUS CAN Master interface, isolated repeater
- ZC-107FO CANopen fiber optic – bridge and repeater (point-to-point high speed transmission)



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

Z-PC line

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