

Z-PC

Z-TWS-02, Z-TWS-64, Z-LWS, Z-BRIDGE

Modular control units

Z-PC LINE



- ▶ Multi-function modular CPU's: PLC, Web Server, RTU, Datalogger, Bridge
- ▶ RS232 interfaces (user free / programming)
- ▶ Master / Slave ModBUS on RS232 / RS485
- ▶ Ethernet port 10BaseT open to SCADA and remote supervisory systems
- ▶ RISC / MISC processor 32 bit / 64 bit
- ▶ 8 MB RAM, 16 MB Flash memory (data)
- ▶ Configuration and setup software IEC 61131
- ▶ Options: IEC 870 protocols, CanOpen and Profibus DP board, Kit Smart Speech

Z-TWS-02, Z-TWS-64, Z-LWS, Z-BRIDGE

TECHNICAL FEATURES

	Z-TWS.02	Z-TWS-64	Z-LWS	Z-BRIDGE
				
	Multi-function control unit	64 bit multi-function control unit	Micro PLC	Bridge TCP/IP
	Multi-function control unit PLC, RTU, Web Server	Multi-function control unit PLC, RTU, Web Server, high performances	PLC unit for local automation.	Serial protocol converter from ModBUS RTU to ModBUS TCP/IP

GENERAL DATA

DC power supply	10..40 Vdc	10..40 Vdc	10..40 Vdc	10..40 Vdc
AC power supply	19..28 Vac / 50-60 Hz	19..28 Vac / 50-60 Hz	19..28 Vac / 50-60 Hz	19..28 Vac / 50-60 Hz
Max consumption	3.5 W	3.5 W	3.5 W	3.5 W
Isolation	1.500 Vac	1.500 Vac	1.500 Vac	1.500 Vac
LED status indicators	• Ethernet link • Ethernet connection • Power ON • PLC ON	• Ethernet link • Ethernet connection • Power ON • PLC ON	• Ethernet link • Ethernet connection • Power ON	• Ethernet link • Ethernet connection • Power ON
Installation category	II	II	II	II
Pollution degree	2	2	2	2
Protection degree	IP20	IP20	IP20	IP20
Operating temperature	0..+55 °C	0..+55 °C	0..+55 °C	0..+55 °C
Storage temperature	-20..+70 °C	-20..+70 °C	-20..+70 °C	-20..+70 °C
Humidity	30..90% a +40 °C (non condensing)	30..90% a +40 °C (non condensing)	30..90% a +40 °C (non condensing)	30..90% a +40 °C (non condensing)
Dimensions	17.5 x 100 x 112 mm	17.5 x 100 x 112 mm	17.5 x 100 x 112 mm	17.5 x 100 x 112 mm
Weight	Approx. 250 g	Approx. 250 g	Approx. 250 g	Approx. 250 g
Case	Nylon 6, 30% fibreglass filled, self extinguishing class V0	Nylon 6, 30% fibreglass filled, self extinguishing class V0	Nylon 6, 30% fibreglass filled, self extinguishing class V0	Nylon 6, 30% fibreglass filled, self extinguishing class V0
Hot swapping	Yes	Yes	Yes	Yes
Connection	Removable terminals with section of 2.5 mm ²	Removable terminals with section of 2.5 mm ²	Removable terminals with section of 2.5 mm ²	Removable terminals with section of 2.5 mm ²
Mounting	35 mm symmetrical DIN rail 46277	35 mm symmetrical DIN rail 46277	35 mm symmetrical DIN rail 46277	35 mm symmetrical DIN rail 46277

COMMUNICATION PORTS

# 0 RS232 (system monitor or I/O acquisition)	1	1	1	1
# 1 RS485 (I/O ModBUS Master or other Modbus RTU devices)	1	1	1	1
# 2 RS232/485 (settable via Dip-Sw); connection to I/O Z-PC or other devices	1	1	0	1
#3 RS485 (I/O acquisition)	1	1	0	1

ETHERNET COMMUNICATION

Porta Ethernet 10BaseT	1	1	1	1
Ethernet TCP/IP	Yes	Yes	-	-
ModBUS TCP / IP	Client / Server	Client / Server	Client / Server	Server
Speed (Ethernet)	10 Mb/s	10 Mb/s	10 Mb/s	10 Mb/s

SERIAL / BUS COMMUNICATION

Max task ModBUS Master	4	4	4	4
Max task ModBUS slave RTU o TCP	3	3	3	3
ModBUS RTU su RS232/RS485	Master / Slave	Master / Slave	Master / Slave	Only Master
Data rate	1.200..115.00 bps	1.200..115.00 bps	1.200..115.00 bps	1.200..115.00 bps
Parity	None, even, odd	None, even, odd	None, even, odd	None, even, odd
Max communication distance	1200 m	1200 m	1200 m	1200 m
Max nr of modules on the same line	32 nodes	32 nodes	32 nodes	32 nodes
Profibus DP Slave card	Yes	Yes	-	-
CanOpen Master card	Yes (addition)	Yes (addition)	-	-

SYSTEM PROTOCOLS

PPP	Yes	Yes	-	-
http	Yes	Yes	Yes	-
FTP	Yes	Yes	Yes	For download configurations
SMTP	Yes	Yes	-	-

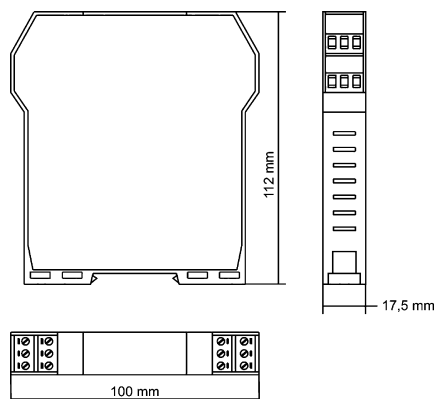
PROCESSING & MEMORY

Cycle time	2.5 ms/Kinstr.	n.a.	n.a.	n.a.
Processor	CPU μ P RISC 32 bit – 20 MIPS	CPU μ P MISC 64 bit	CPU μ P RISC 32 bit – 20 MIPS	CPU μ P RISC 32 bit – 20 MIPS
Flash memory (data)	16 MB (14 for datalogging)	16 MB (14 for datalogging)	512 KB	512 KB
RAM	8 MB	8 MB	256 KB	256 KB
Retention variables	236 bytes	236 bytes	236 bytes	-
Backup battery	Yes	Yes	Yes	Yes

SETUP, SOFTWARE AND CE NORMS

Z-NET	Yes	Yes	Yes	Yes
OPC SERVER	Yes	Yes	-	-
Web Server	Yes	Yes	-	-
Datalogger	Yes	Yes	-	-
RTU / Z-NET RTU	Yes	Yes	-	-
PLC / ISAGRAF	Yes	Yes	Yes (restricted functions)	No
Max analog variables	32.000	32.000	n.a.	n.a.
Max timer	16.000	16.000	n.a.	n.a.
Max counters	16.000	16.000	n.a.	n.a.
Norms	EN50081-2; EN 55011; EN 50082-2; EN 61000-2-2/4; EN 50140/141 ; EN 61010-1; EN 60742	EN50081-2; EN 55011; EN 50082-2; EN 61000-2-2/4; EN 50140/141 ; EN 61010-1; EN 60742	EN50081-2; EN 55011; EN 50082-2; EN 61000-2-2/4; EN 50140/141 ; EN 61010-1; EN 60742	EN50081-2; EN 55011; EN 50082-2; EN 61000-2-2/4; EN 50140/141 ; EN 61010-1; EN 60742

DIMENSIONS



ORDER CODES

PLC	RTU	Web server	Datalogger	Bridge	CPU	
■	■	■	■	■	Z-TWS-02	Multi-function control unit, 10..40 Vdc, 19..28 Vac
■	■	■	■	■	Z-TWS-64	Multi-function control unit 64 bit, 10..40 Vdc, 19..28 Vac
■	■	■	■	■	Z-LWS	Micro PLC, 10..40 Vdc, 19..28 Vac
■	■	■	■	■	Z-BRIDGE	Protocol converter, 10..40 Vdc, 19..28 Vac

ADDITIONS

SMART-SPEECH	Smart Speech Kit
PROFIBUS-DP	Profibus DP (Slave) electronic card
CANOPEN	CanOPEN (Master) electronic card
IEC 870	Remote control protocol added in firmware

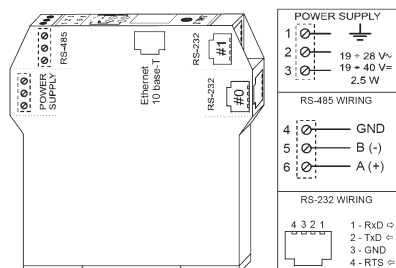
SOFTWARE

Z-NET3	IEC 61131 system configurator.
Z-NET3 RTU-0	Remote control scheduler, basic functions
Z-NET3 RTU-1	Remote control scheduler, OCX's exportable
Z-NET3 RTU-2	Remote control scheduler automatic download up to 5 peripheral units
Z-NET3 RTU-3	Remote control scheduler Automatic download from 6 up to 10 peripheral units
Z-NET3 RTU-4	Remote control scheduler, automatic download over 10 peripheral units
Data Recorder	Acquisition and Data recording software
Trend Viewer	Viewer for data stored by Data Recorder
Web Editor	Html / Java editor for supervision and control pages
OPC Server	Communication and data access software
OCX	ActiveX Objects for data visualization
UNICONTROL01	PLC (IEC 61131) Isagraf programming toolkit, 64 tag
UNICONTROL02	PLC (IEC 61131) Isagraf programming toolkit, 256 tag

CABLES

PM001420	CPU-PC serial cable
PM001430	CPU-Modem (DB25) serial cable
PM001440	CPU-OP serial cable
PM001450	Ethernet cable
PM001460	Crossed Ethernet cable
PM001530	CPU-Modem (DB9) serial cable

ELECTRICAL CONNECTIONS



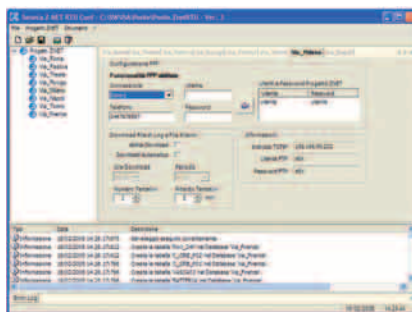
SOFTWARE

Z-NET³



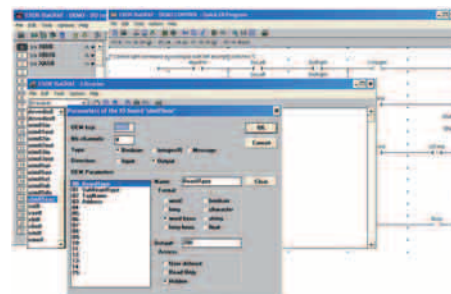
- Hardware, data, communication network configurator
- Automation & remote control integrated functions.

Z-NET³ RTU



- Scheduler, data storage, viewer for remote control syste
- Communication manager between center and peripheral units

ISAGRAF



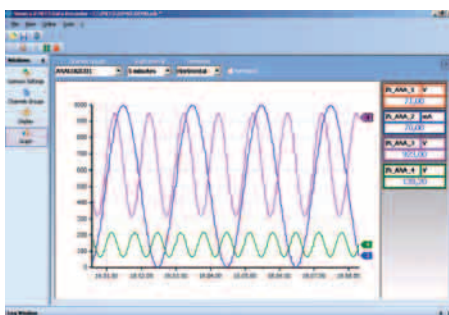
- IEC 61131 Developing PLC toolkit, 7 programming languages
- Integrated Seneca libraries

WEB EDITOR



- Web pages creator for remote monitoring
- Integrated Seneca libraries

DATA RECORDER



- Data acquisition and recording software from I/O modules and ModBUS devices
- Historical display of data with Trend Viewer package

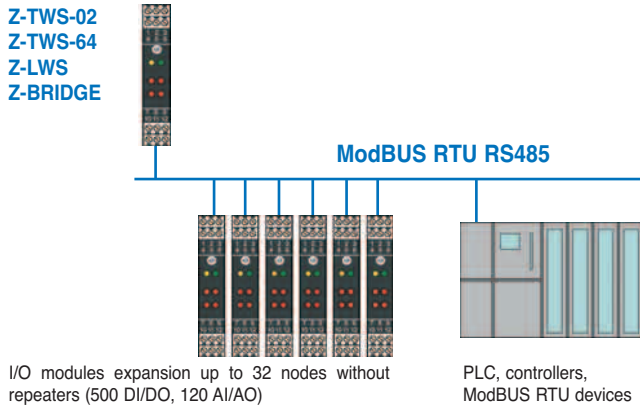
OPC SERVER

Connection Name	Device	Address	Port	Protocol	Comments
OPC-Server-1	PLC-1	192.168.1.100	502	Modbus	Modbus connection to PLC-1
OPC-Server-2	PLC-2	192.168.1.101	502	Modbus	Modbus connection to PLC-2
OPC-Server-3	PLC-3	192.168.1.102	502	Modbus	Modbus connection to PLC-3
OPC-Server-4	PLC-4	192.168.1.103	502	Modbus	Modbus connection to PLC-4
OPC-Server-5	PLC-5	192.168.1.104	502	Modbus	Modbus connection to PLC-5
OPC-Server-6	PLC-6	192.168.1.105	502	Modbus	Modbus connection to PLC-6
OPC-Server-7	PLC-7	192.168.1.106	502	Modbus	Modbus connection to PLC-7
OPC-Server-8	PLC-8	192.168.1.107	502	Modbus	Modbus connection to PLC-8
OPC-Server-9	PLC-9	192.168.1.108	502	Modbus	Modbus connection to PLC-9
OPC-Server-10	PLC-10	192.168.1.109	502	Modbus	Modbus connection to PLC-10

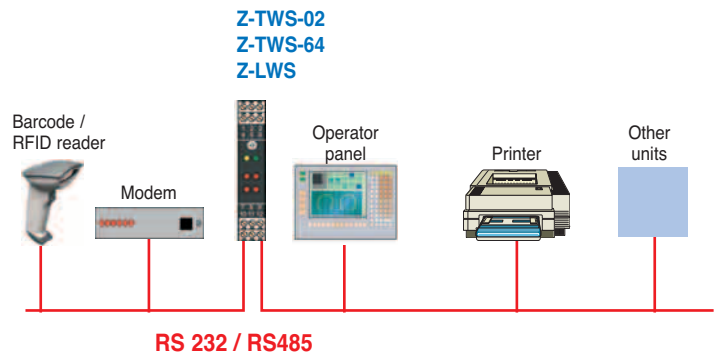
- Multiple CPU connections on Ethernet
- Reading, upgrading, saving data on variables files

LAYOUT CONNECTIONS

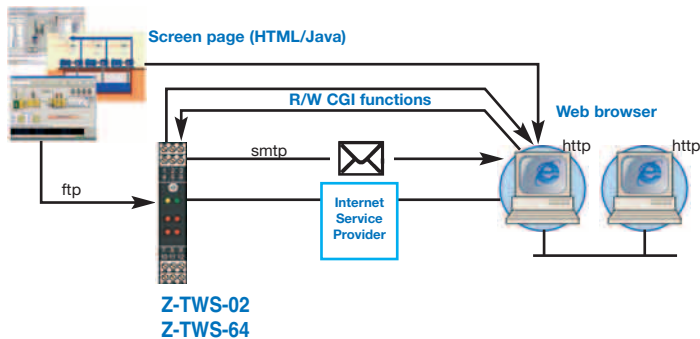
RS485 – MODBUS RTU



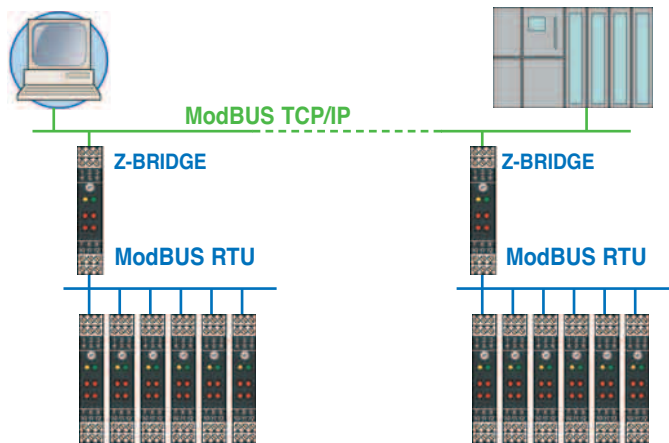
RS232 / RS485 SERIAL CONNECTION



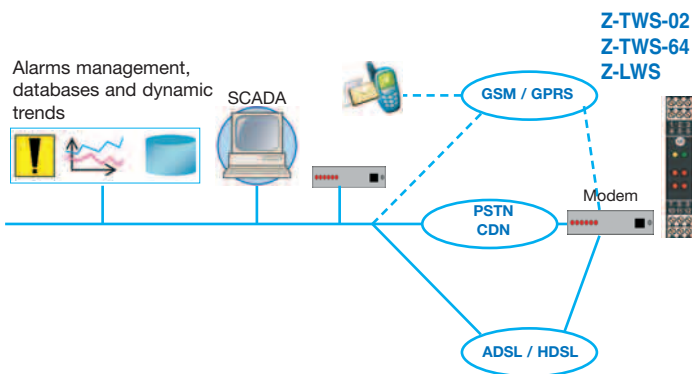
REMOTE ACCESS, WEB AND PPP FUNCTIONS



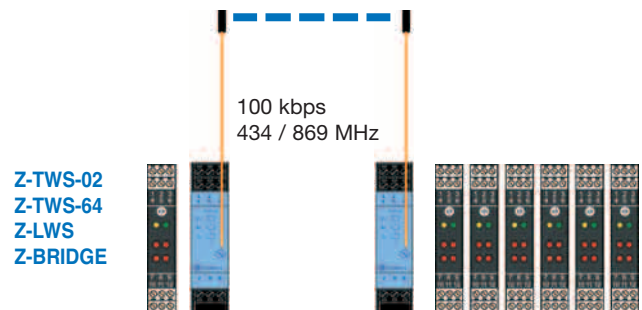
BRIDGE MODBUS RTU / MODBUS TCP-IP



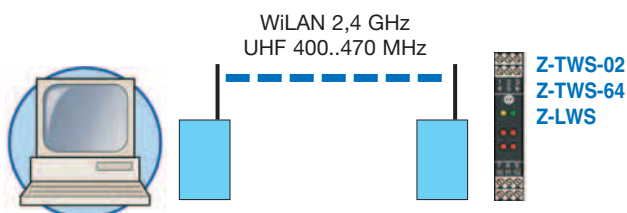
TELEPHONE LINE



SHORT RANGE WIRELESS



MEDIUM RANGE WIRELESS



WIDE RANGE WIRELESS

