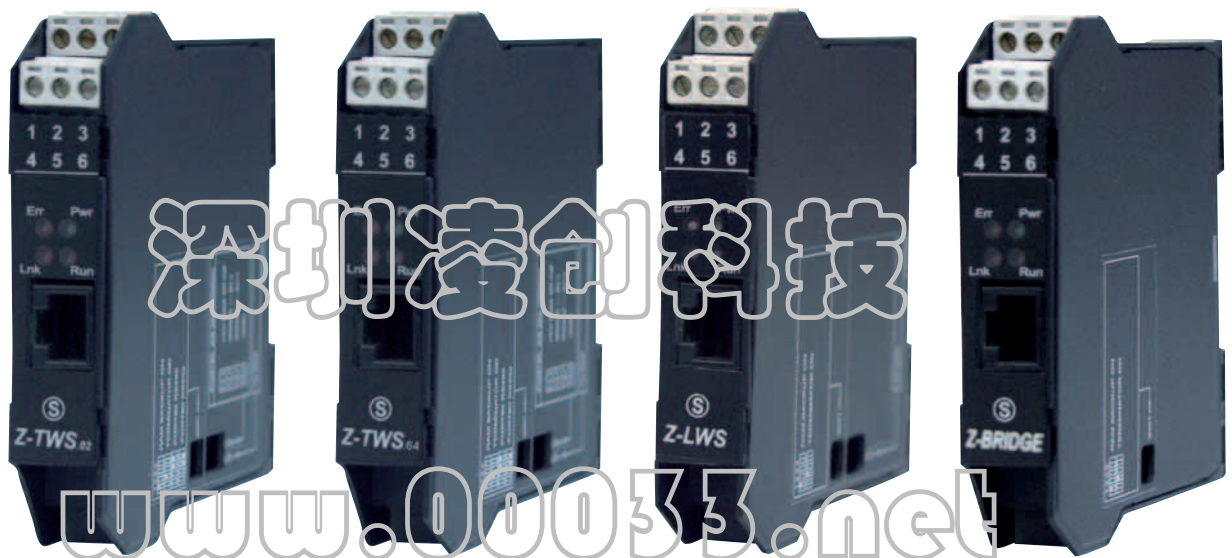


Z-PC

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 • PLC 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	-	-

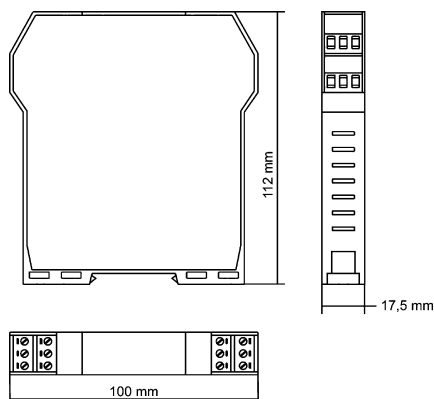
PROCESSING & MEMORY

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

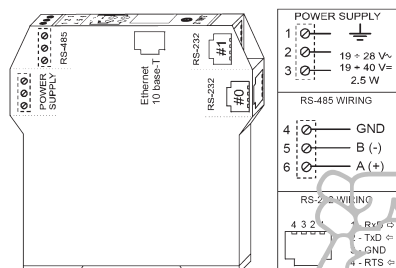
ADDITIONS

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

ELECTRICAL CONNECTIONS



CABLES

PM01420	CPU-PC serial cable
PM01430	CPU-Modem (DB25) serial cable
PM01440	CPU-OP serial cable
PM001450	Ethernet cable
PM001460	Crossed Ethernet cable
PM001530	CPU-Modem (DB9) serial cable

SOFTWARE

Z-NET³



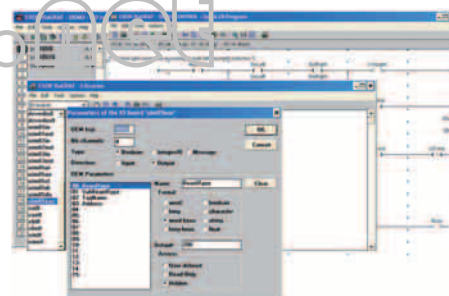
- Hardware, data, communication network configurator
- Automation & remote control integrated functions.

Z-NET³ RTU



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

ISAGRAF



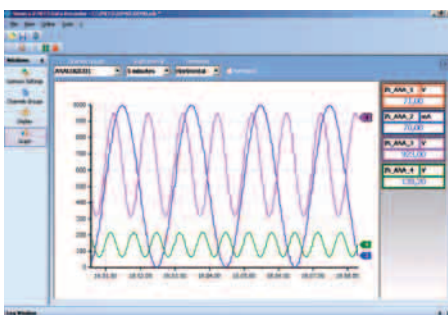
- IEC 61131 Developing PLC toolkit, 7 programming languages
- Integrated Seneca libraries

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

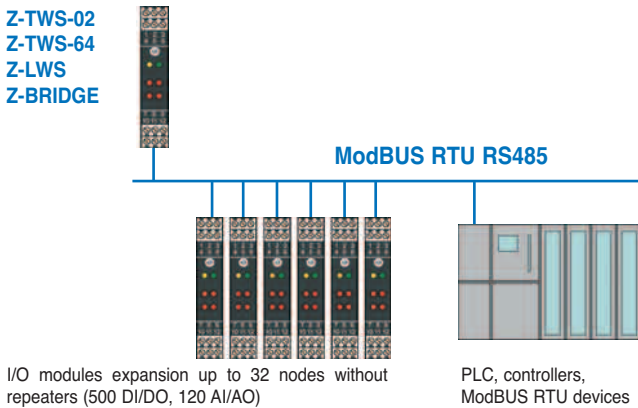
OPC SERVER

Variable	Address	Type	Access	Comments	Group	Comments
OPC-Server-27000	0	Bool	R/W	100 100 100	1	OPC-Server-27000
OPC-Server-27001	1	Bool	R/W	100 100 100	1	OPC-Server-27001
OPC-Server-27002	2	Bool	R/W	100 100 100	1	OPC-Server-27002
OPC-Server-27003	3	Bool	R/W	100 100 100	1	OPC-Server-27003
OPC-Server-27004	4	Bool	R/W	100 100 100	1	OPC-Server-27004
OPC-Server-27005	5	Bool	R/W	100 100 100	1	OPC-Server-27005
OPC-Server-27006	6	Bool	R/W	100 100 100	1	OPC-Server-27006
OPC-Server-27007	7	Bool	R/W	100 100 100	1	OPC-Server-27007
OPC-Server-27008	8	Bool	R/W	100 100 100	1	OPC-Server-27008
OPC-Server-27009	9	Bool	R/W	100 100 100	1	OPC-Server-27009
OPC-Server-27010	10	Bool	R/W	100 100 100	1	OPC-Server-27010
OPC-Server-27011	11	Bool	R/W	100 100 100	1	OPC-Server-27011
OPC-Server-27012	12	Bool	R/W	100 100 100	1	OPC-Server-27012
OPC-Server-27013	13	Bool	R/W	100 100 100	1	OPC-Server-27013
OPC-Server-27014	14	Bool	R/W	100 100 100	1	OPC-Server-27014
OPC-Server-27015	15	Bool	R/W	100 100 100	1	OPC-Server-27015
OPC-Server-27016	16	Bool	R/W	100 100 100	1	OPC-Server-27016
OPC-Server-27017	17	Bool	R/W	100 100 100	1	OPC-Server-27017
OPC-Server-27018	18	Bool	R/W	100 100 100	1	OPC-Server-27018
OPC-Server-27019	19	Bool	R/W	100 100 100	1	OPC-Server-27019
OPC-Server-27020	20	Bool	R/W	100 100 100	1	OPC-Server-27020
OPC-Server-27021	21	Bool	R/W	100 100 100	1	OPC-Server-27021
OPC-Server-27022	22	Bool	R/W	100 100 100	1	OPC-Server-27022
OPC-Server-27023	23	Bool	R/W	100 100 100	1	OPC-Server-27023
OPC-Server-27024	24	Bool	R/W	100 100 100	1	OPC-Server-27024
OPC-Server-27025	25	Bool	R/W	100 100 100	1	OPC-Server-27025
OPC-Server-27026	26	Bool	R/W	100 100 100	1	OPC-Server-27026
OPC-Server-27027	27	Bool	R/W	100 100 100	1	OPC-Server-27027
OPC-Server-27028	28	Bool	R/W	100 100 100	1	OPC-Server-27028
OPC-Server-27029	29	Bool	R/W	100 100 100	1	OPC-Server-27029
OPC-Server-27030	30	Bool	R/W	100 100 100	1	OPC-Server-27030
OPC-Server-27031	31	Bool	R/W	100 100 100	1	OPC-Server-27031
OPC-Server-27032	32	Bool	R/W	100 100 100	1	OPC-Server-27032
OPC-Server-27033	33	Bool	R/W	100 100 100	1	OPC-Server-27033
OPC-Server-27034	34	Bool	R/W	100 100 100	1	OPC-Server-27034
OPC-Server-27035	35	Bool	R/W	100 100 100	1	OPC-Server-27035
OPC-Server-27036	36	Bool	R/W	100 100 100	1	OPC-Server-27036
OPC-Server-27037	37	Bool	R/W	100 100 100	1	OPC-Server-27037
OPC-Server-27038	38	Bool	R/W	100 100 100	1	OPC-Server-27038
OPC-Server-27039	39	Bool	R/W	100 100 100	1	OPC-Server-27039
OPC-Server-27040	40	Bool	R/W	100 100 100	1	OPC-Server-27040
OPC-Server-27041	41	Bool	R/W	100 100 100	1	OPC-Server-27041
OPC-Server-27042	42	Bool	R/W	100 100 100	1	OPC-Server-27042
OPC-Server-27043	43	Bool	R/W	100 100 100	1	OPC-Server-27043
OPC-Server-27044	44	Bool	R/W	100 100 100	1	OPC-Server-27044
OPC-Server-27045	45	Bool	R/W	100 100 100	1	OPC-Server-27045
OPC-Server-27046	46	Bool	R/W	100 100 100	1	OPC-Server-27046
OPC-Server-27047	47	Bool	R/W	100 100 100	1	OPC-Server-27047
OPC-Server-27048	48	Bool	R/W	100 100 100	1	OPC-Server-27048
OPC-Server-27049	49	Bool	R/W	100 100 100	1	OPC-Server-27049
OPC-Server-27050	50	Bool	R/W	100 100 100	1	OPC-Server-27050
OPC-Server-27051	51	Bool	R/W	100 100 100	1	OPC-Server-27051
OPC-Server-27052	52	Bool	R/W	100 100 100	1	OPC-Server-27052
OPC-Server-27053	53	Bool	R/W	100 100 100	1	OPC-Server-27053
OPC-Server-27054	54	Bool	R/W	100 100 100	1	OPC-Server-27054
OPC-Server-27055	55	Bool	R/W	100 100 100	1	OPC-Server-27055
OPC-Server-27056	56	Bool	R/W	100 100 100	1	OPC-Server-27056
OPC-Server-27057	57	Bool	R/W	100 100 100	1	OPC-Server-27057
OPC-Server-27058	58	Bool	R/W	100 100 100	1	OPC-Server-27058
OPC-Server-27059	59	Bool	R/W	100 100 100	1	OPC-Server-27059
OPC-Server-27060	60	Bool	R/W	100 100 100	1	OPC-Server-27060
OPC-Server-27061	61	Bool	R/W	100 100 100	1	OPC-Server-27061
OPC-Server-27062	62	Bool	R/W	100 100 100	1	OPC-Server-27062
OPC-Server-27063	63	Bool	R/W	100 100 100	1	OPC-Server-27063
OPC-Server-27064	64	Bool	R/W	100 100 100	1	OPC-Server-27064
OPC-Server-27065	65	Bool	R/W	100 100 100	1	OPC-Server-27065
OPC-Server-27066	66	Bool	R/W	100 100 100	1	OPC-Server-27066
OPC-Server-27067	67	Bool	R/W	100 100 100	1	OPC-Server-27067
OPC-Server-27068	68	Bool	R/W	100 100 100	1	OPC-Server-27068
OPC-Server-27069	69	Bool	R/W	100 100 100	1	OPC-Server-27069
OPC-Server-27070	70	Bool	R/W	100 100 100	1	OPC-Server-27070
OPC-Server-27071	71	Bool	R/W	100 100 100	1	OPC-Server-27071
OPC-Server-27072	72	Bool	R/W	100 100 100	1	OPC-Server-27072
OPC-Server-27073	73	Bool	R/W	100 100 100	1	OPC-Server-27073
OPC-Server-27074	74	Bool	R/W	100 100 100	1	OPC-Server-27074
OPC-Server-27075	75	Bool	R/W	100 100 100	1	OPC-Server-27075
OPC-Server-27076	76	Bool	R/W	100 100 100	1	OPC-Server-27076
OPC-Server-27077	77	Bool	R/W	100 100 100	1	OPC-Server-27077
OPC-Server-27078	78	Bool	R/W	100 100 100	1	OPC-Server-27078
OPC-Server-27079	79	Bool	R/W	100 100 100	1	OPC-Server-27079
OPC-Server-27080	80	Bool	R/W	100 100 100	1	OPC-Server-27080
OPC-Server-27081	81	Bool	R/W	100 100 100	1	OPC-Server-27081
OPC-Server-27082	82	Bool	R/W	100 100 100	1	OPC-Server-27082
OPC-Server-27083	83	Bool	R/W	100 100 100	1	OPC-Server-27083
OPC-Server-27084	84	Bool	R/W	100 100 100	1	OPC-Server-27084
OPC-Server-27085	85	Bool	R/W	100 100 100	1	OPC-Server-27085
OPC-Server-27086	86	Bool	R/W	100 100 100	1	OPC-Server-27086
OPC-Server-27087	87	Bool	R/W	100 100 100	1	OPC-Server-27087
OPC-Server-27088	88	Bool	R/W	100 100 100	1	OPC-Server-27088
OPC-Server-27089	89	Bool	R/W	100 100 100	1	OPC-Server-27089
OPC-Server-27090	90	Bool	R/W	100 100 100	1	OPC-Server-27090
OPC-Server-27091	91	Bool	R/W	100 100 100	1	OPC-Server-27091
OPC-Server-27092	92	Bool	R/W	100 100 100	1	OPC-Server-27092
OPC-Server-27093	93	Bool	R/W	100 100 100	1	OPC-Server-27093
OPC-Server-27094	94	Bool	R/W	100 100 100	1	OPC-Server-27094
OPC-Server-27095	95	Bool	R/W	100 100 100	1	OPC-Server-27095
OPC-Server-27096	96	Bool	R/W	100 100 100	1	OPC-Server-27096
OPC-Server-27097	97	Bool	R/W	100 100 100	1	OPC-Server-27097
OPC-Server-27098	98	Bool	R/W	100 100 100	1	OPC-Server-27098
OPC-Server-27099	99	Bool	R/W	100 100 100	1	OPC-Server-27099

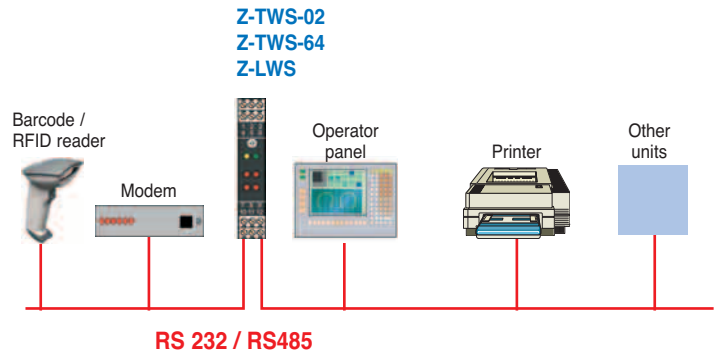
- Multiple CPU connections on Ethernet
- Reading, upgrading, saving data on variables files

LAYOUT CONNECTIONS

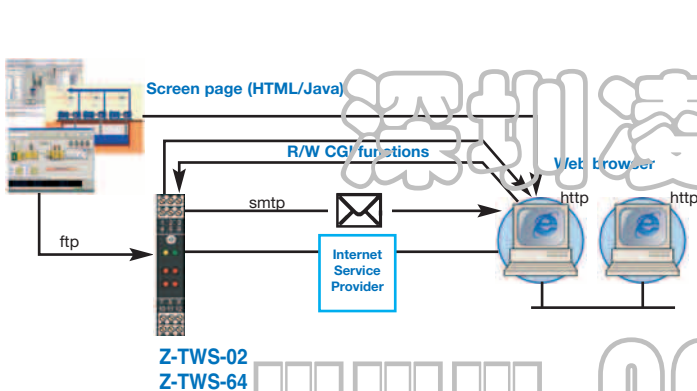
RS485 – MODBUS RTU



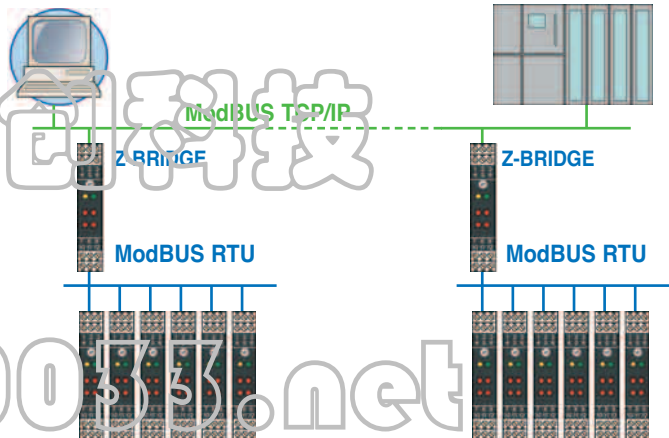
RS232 / RS485 SERIAL CONNECTION



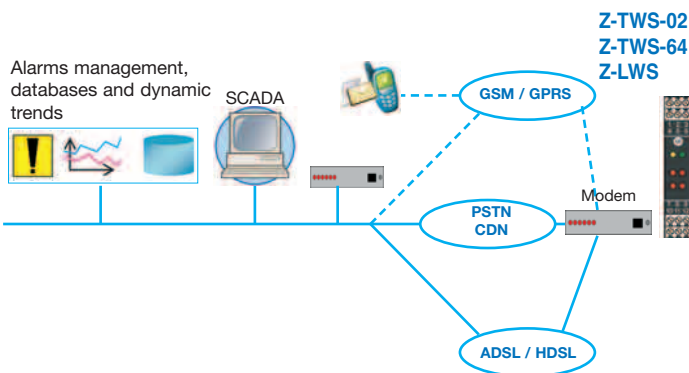
REMOTE ACCESS, WEB AND PPP FUNCTIONS



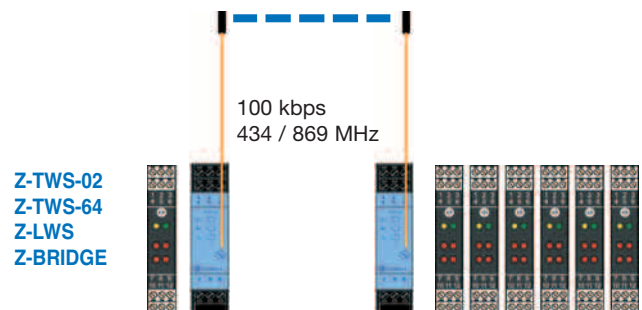
BRIDGE MODBUS RTU / MODBUS TCP/IP



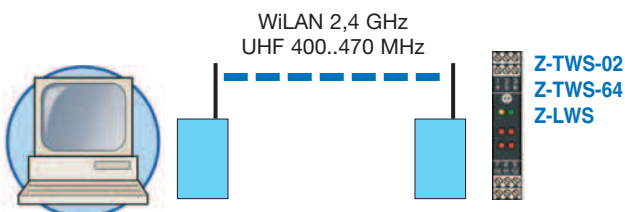
TELEPHONE LINE



SHORT RANGE WIRELESS



MEDIUM RANGE WIRELESS



WIDE RANGE WIRELESS

