

DW 918 B iGPRS

INDUSTRIAL GPRS RELAY

The DW 918 B iGPRS is a wireless industrial GPRS data communication device. It is for use in systems requiring wireless data communications with outstandingly high availability, parallel redundant data connections, and IPsec encryption.

FEATURES

- DHCP or fixed IP address
- Continuous GPRS connection
- IPsec encryption

SPECIAL CHARACTERISTICS

- Integrated web server
- Diagnostic functions
- Watchdog
- Complete remote manageability and remote software updating over Ethernet and GPRS interfaces

INDUSTRIAL DESIGN

- Operational temperature range -10°C to 60°C
- Protection: IP30
- Omega track mounting

APPLICATION

The DW 918 B iGPRS relay with parallel GPRS redundancy is used in pairs in industrial communication systems together with the DW 982 L and DW 982 LC routers.

The availability of the communication channel created with the configuration above exceeds 99.98%.

The two devices build two separate continuous and redundant data connections over the GPRS network between the field systems and the central systems using the IPsec protocol.

Data packets requiring high reliability use two GPRS networks in parallel, while applications requiring greater bandwidth use the two devices to increase speed.



TECHNICAL SPECIFICATIONS

FUNCTIONS

Ethernet standard:	10BaseT
Applied protocols:	ICMP, TCP, UDP, FTP, HTTP, ARP
IPSec:	Support for AH Transport Mode, MD5 signature, iGSA encryption procedure
Network functions:	Tracert, ping
Communication buffer:	128 KByte RAM
Program memory:	128 Kbyte Flash
GPRS:	MS Class B, GPRS Class 8, max. 85.6kbps P Channel Support Coding schemes CS1-CS4
Engineering interface:	Yes
Settings via web interface:	Yes

CONNECTION INTERFACE

Ethernet jack:	8 pole RJ45
GSM antenna jack:	50ΩMMCX
DC jack:	2 pole Phoenix Contact Combicon

LED STATUS SIGNAL

POWER:	Presence of power supply
GPRS Err:	GPRS status

GPRS Rx:	GPRS data receive
GPRS Tx:	GPRS data send
ETH Coll.:	Ethernet collision
ETH Rx:	Ethernet data receive
ETH Tx:	Ethernet data send

GENERAL CHARACTERISTICS

Voltage:	24V DC ±10%
Power consumption:	max. 1800 mW
Operational temperature:	-10 °C to +60 °C
Storage temperature:	-40 °C to +120 °C
Relative humidity:	5% to 95% (non-condensing)
Vibration:	2.1g to 15-150Hz ±2.5 mm amplitude
Size (LxWxH):	25x122x117mm
Protection against reversed voltage polarity:	Yes

RADIO FREQUENCY DATA

Dual band GSM/GPRS device, EGSM 900/1800MHz	
Meets 3GPP GSM Phase 2+ standard	
Output Capacity:	2W 900 MHz 1W 1800 MHz
Integrated Modem:	Sony-Ericsson GM 47
Type approval:	Every GSM service provider
Number of SIM card slots:	1

GENERAL INFORMATION

PURPOSE OF THE DEVICE

The industrial data transfer system using a parallel GPRS redundancy industrial communication system is made up of at least one DW 918 L field router, one 982 LC and two DW 918 B industrial GPRS relays. The two DW 918 B relays provide the redundant data connection between the field network and the central routers using the IPSec protocol. The two-way IP - IPSec conversion is handled by the DW 918 B relays.

SECURITY

The security of the transferred GPRS packets is guaranteed by the IPSec protocol. To prevent unwanted manipulation of data every IP packet is signed with an MD5-0s hash code. The iGSA encryption procedure prevents information falling into unauthorized hands. The implementation of the IPSec protocol AH Transport Mode standard eliminates potential duplication of packets.

SETTINGS

Operational parameters and settings can be adjusted via an integrated web server and the HTML page it presents and also via the engineering port (12C bus) using the DW 900 TWI software.

DIAGNOSTICS

The device collects diagnostic information while operating. Such information includes time since switch on, network circuit handling data, GPRS statistics, and IP traffic counting. The diagnostic information can be viewed on the device's web interface or can be continuously channeled to a pre-defined IP address. Diagnostic information can also be queried via XML.

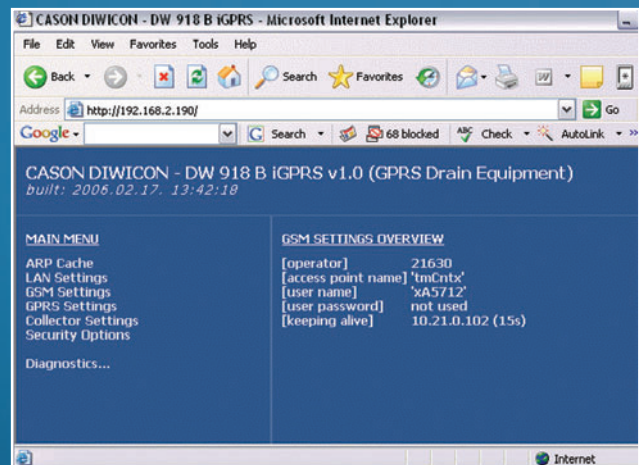
OPERATION

Locally, the DW 918 B iGPRS device connects to one of the ports on the DW 982 L device and thus receives its routing destined traffic. When operating, it ensures the continuous GPRS connection and receives the IP traffic routed by the central DW 982 LC device. It is capable of handling the SIM card of a single GSM service provider on the condition that the central DW 982 LC device's IP addresses be accessible from the APN it provides. The device does not perform routing, but simply performs the IP traffic conversion between the Ethernet

and the GPRS network. The extraordinary degree of availability can be ensured with the use of dual DW 918 B iGPRS devices. This is done with two identical DW 918 B iGPRS devices connected locally to one DW 982 L unit with the two DW 918 B iGPRS devices using the SIM cards of differing GSM service providers.

REMOTE SOFTWARE UPDATE

The software for the microcontroller can be remotely updated by reloading the program stored in FLASH memory. This takes place via Ethernet and GPRS. The upload is performed using the DW 900 FWU software. "A90" extension Intel-extended format rendered files may be used for the upload which the manufacturer provides together with the software when a version upgrade is necessary. During the software upgrade all other functions remain undisturbed and available. Following a successful update, the device automatically restarts and the new version becomes active. If the update is unsuccessful, it can be repeated at any time.



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