

DIWICON DW 297 C

INDUSTRIAL INTELLIGENT REDUNDANT COMMUNICATION FIELD UNITS

The DW 297 C type field communication devices use extremely high reliability and parallel redundant wireless industrial GSM/GPRS data communication.

FEATURES

- GSM/GPRS based communication
- Serial field communication
- Optional CAN field communication

SPECIAL CHARACTERISTICS

- Uses energy industry device protocols (electricity, gas, oil)
- Selectable communication (GPRS, GSM Dialup)
- Galvanic isolation field communication
- Communication activating output
- Battery or externally powered
- Data acquisition and storage for up to 6 months
- Diagnostic functions
- Watchdog
- Complete remote manageability and remote software update over GPRS
- GSM or GPS (optional) based time synchronization
- Sabotage protection

INDUSTRIAL DESIGN

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

APPLICATION

The DW 297 C type industrial field communication devices provide extremely high reliability communication for wide geographic area industrial systems. The members of the family include devices that make use of CAN field communication (DW 297 CC), have an integrated GPS module (DW 297 CG) or are fully equipped (DW 297 CCG).

Its most common application is data acquisition and communication in the remote measurement systems of wide-area energy provider networks (gas, oil, electricity, water).

The redundant GSM connection ensures high availability.



TECHNICAL DATA

| FUNCTIONS | |
|----------------------------------|--|
| GSM communication: | Redundant or single SIM card GSM/GPRS |
| Time window GSM communication: | For GSM based transparent data communication at battery powered stations |
| Field protocols applied: | Gas industry flow computers (CORUS, UNIGAS, SEVC-D, KHM, PTK, IEVC-999) Electrical gauging standards (DLMS, VDEW2.0, IEC61107) |
| Internal memory: | 512 kbyte (Flash) |
| Internal memory polling: | Over GPRS or DialUp communication |
| Sabotage protection: | <ul style="list-style-type: none">• Open box sensor• Power cut sensor• Displacement sensor |
| GPS based time synchronization: | <60 ns precision |
| GPRS based time synchronization: | <100 ms precision |
| Internal temperature: | Service support system |

| | |
|-----------|------------------------------------|
| GPRS Err: | GSM interface error |
| GPRS Rx: | Serial interface data reception |
| GPRS Tx: | Serial interface data transmission |

| CONNECTION INTERFACE | |
|----------------------------|---|
| Serial connection (RS232): | 4 pole Binder connection (female) |
| CAN connection (optional): | 4 pole Binder connection (male) |
| 3.6 V battery power: | Pluggable 3 pole Phoenix Contact Combicon (recommended battery: DW PS 140-36 GEx) |
| 24 V mains power: | Pluggable 2 pole Phoenix Contact Combicon |
| Energy saving mode: | Intelligently optimizes energy consumption: |

| TECHNICAL DATA | |
|--------------------------------|--|
| Power supply: | 3 to 5 V DC +/-10% |
| Power consumption: | max. 850 mW |
| Operational temperature range: | -10°C to +60°C |
| Storage temperature range: | -40°C to +120 °C |
| Humidity: | 5 - 95% [non-condensing] |
| Vibration: | 2.1 g - 15-150Hz ± 2.5 mm deviation |
| Dimensions (LxWxH): | 25x122x117 mm |
| Reverse polarity protection: | Yes |

| STATUS LEDs | |
|-------------|------------------------------------|
| POWER: | Power on/off |
| GPS: | GPS signal |
| CAN Err: | CAN interface error |
| CAN Act: | CAN interface activity |
| RS232 Rx: | Serial interface data reception |
| RS232 Tx: | Serial interface data transmission |

GENERAL INFORMATION

DEVICE APPLICATION

Field stations making use of GSM/GPRS redundancy communication can be set-up using at least a DW 297 C and at most a DW 297 CCG. The reading of the measuring instrument can be realized universally with transparent GSM communication initiated by the central polling system or with GPRS based communication initiated by the intelligent field device.

SETTINGS

The main goal of the settings modes is to use the optimal mode of operation possible in relation to the central system communication and the available field power. Thus, integration is even possible with battery power in a sequential polling system.

DIAGNOSTICS

The device collects diagnostic information such as GSM network errors, field communication errors, and even the device's own internal temperature.

REMOTE SOFTWARE UPDATE

The software for the microcontroller can be remotely updated by reloading the program stored in FLASH memory. This can take place via GSM 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.

OPERATION

The DW 297 C has two independent communication channels with independent settings. Depending on the settings it connects to the GSM/GPRS network and forwards the field device data to a measurement and data acquisition.



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