

BASED ON UP-TO-DATE ADDAX TECHNOLOGY
FOR AMI SYSTEMS

Datasheet

DC2S Data Concentrator

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add new tech to your business!








DC2S

MULTI-FUNCTION SMART DATA CONCENTRATOR



DC2S interfaces



-  Automatic detection, registration and support of end-point devices within the network
-  Full 2-way communication
- PLC** Built-in LV PLC modem
-  2 Ethernet ports for LAN/WAN communication
-  USB interface
-  RS-485 communication channel
-  2G/3G/4G communication module
-  RF communication
- IPSec** Secure data transmission
-  Firmware update (local/remote)
-  Scheduled data collection
-  Event Logs
-  Data storage in non-volatile memory
-  Built-in real-time clock
-  Backup power supply; possibility to connect external power supply
-  Tamper detection sensors
-  Authentication & Encryption

DLMS/COSEM SUPPORT

- Standard data model.
- Standard communication protocols.
- Interoperability.

BUILT-IN CLOCK

- Real Time Clock (RTC).
- RTC accuracy 0,5 s /24 h. (IEC 62052-21).
- Network Time Protocol (NTP) for clock synchronization.
- Support in backup supply mode.
- Automatic changeover for daylight saving time.

DATA STORAGE

- Non-volatile memory.
- Long term data storage.
- Storage capacity depends on number of meters assigned to the DC2S and number and type of the subscribed data.

INFORMATION SECURITY

- Communication encryption protection (AES-128 bit key).
- HTTP secure protocol.
- Support of VPN-tunneling (IPSec protocol).
- Data access according to access rights stated.
- Firmware protection.

INDICATION LEDS

- communication LEDs placed on DC2S nameplate to reflect status of available interfaces:
 - LV, Ethernet, RS-485, 2G.
- Power supply and UPS LEDs.

FRAUD PROTECTION

- DC2S case and terminal block opening sensors.
- Continuous monitoring of opening sensors, including backup supply mode.
- Two protective seals for each cover (DC2S and its terminal block).
- Secure design: terminal block cover cannot be opened without removing DC2S cover.

EVENTS & ALARMS HANDLING

- Continuous control of DC2S current state in real time mode: managed devices registration/unregistration, power failures, tamper attempts, communication events, firmware update etc.
- Events processing, storage and reporting: registration in different event logs, event report sending, state presentation by LEDs and optionally on CIU display.
- Immediate notification to HES in case of alarms.
- Timestamps.

NETWORK DEVICES SUPPORT

- Automatic detection and registration of network devices.
- Support of up to 1,000 end-point devices.

ADDRESSING MODE

- Unicast, broadcast and multicast modes of transmission.

DATA COLLECTION

- On request.
- By preliminary set schedule.
- On event occurred.

PARAMETERIZATION

- Remotely or locally via Ethernet interface.
- DHCP support.
- Web-interface as a parameterization tool.

SOFTWARE UPGRADE

- Managed meters remote update by P3.2 protocol or WEB interface.
- Remote DC2S firmware update by Web browser (also local) or HES application.
- DC2S automatic update from the stated URL at scheduled time.

COMMUNICATIONS

- LV PL communications - OFDM PLC:
 - PRIME, ITU-T G.9904 standard compliance;
 - G3-PLC, ITU-T G.9903 standard compliant
- Ethernet interface:
 - Two RJ-45 ports for LAN and WAN communication, 10/100 BASE-T Ethernet IEEE 802.3 standard compliance.
- USB interface:
 - USB 2.0 Full Speed standard compliant, can be used for local communication.
- RS-485 interface
 - TIA/EIA-485 standard compliant used for communication with external devices.
- RF Communication
 - Built-in RF modem with internal antenna.
 - Modulation: FSK
 - G3-PLC compliant MAC layer
 - Carrier frequency: MHz subrange.
- 2G/3G/4G communication
 - Built-in 2G/3G/4G modem with internal antenna.
 - 2 SIM cards support.

BACKUP POWER SUPPLY

- Possibility to connect the external power supply (UPS), from 12 to 24V DC.

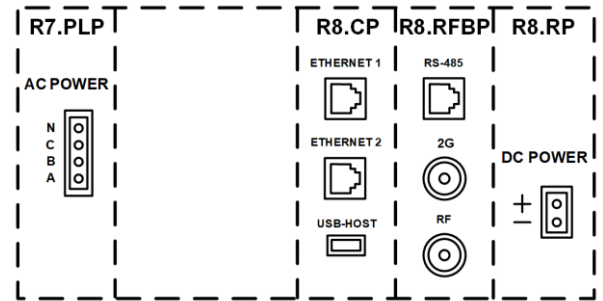
LCD DATA VISUALIZATION

- Customer interface unit (CIU) connected via RS-485 interface (optionally):
 - Backlight;
 - Battery to operate in case when the power is off.

TECHNICAL SPECIFICATIONS

Nominal voltage, Un	3 x 230/400 V ±20%
Supply range	85 V to 460 V
Reference frequency	50 Hz ± 2%
Maximum active consumed power	12 W
Average total consumed power	30 VA
Operation temperature range	-40 °C to +75 °C
Storage and transportation temperature	-40 °C to +85 °C
Difference between temperature of internal parts and environment (less than 55 °C)	30 °C
Clock accuracy (at 25°C) (IEC 62052-21)	≤0.5 s /24 h
The variation of the time-keeping accuracy with the temperature from – 40 °C to +75 °C, not more than	± 0,1 s/°C/24 h
Impulse voltage (IEC 62052-11)	12 kV, 1,2/50 µs, 40 Ohm
Insulation protection	Class 2
Electrostatic discharge (IEC 61000-4-2)	15 kV
High frequency radiant field (IEC 61000-4-3)	10 V/m
High frequency interferences (IEC 61000-4-4)	4 kV
Surge immunity test (IEC 61000-4-5)	6 kV
Voltage fluctuations, not more than	1 s
Mean time between failures (at fault probability of 0.8)	24 000 hours
IP rating	IP54*
Mean total lifetime, not less	20 years
Dimensions	241x170x88 mm
Mass, not more than	1.25 kg

CONNECTION DIAGRAM



HOUSING

- Light-tone non-flammable polycarbonate
- IP 54 protection against water and dust

MOUNTING

- Fastening in three points in vertical position

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* In case of outdoor installation the DC2S should be obligatory installed inside the protective box

SELECTION GUIDE

Parameters		DC2S					
		5-1	6-1	7-1	8-1	10-1	11-1
Unom (V)	3x230	✓	✓	✓	✓	✓	✓
Frequency (Hz)	50	✓	✓	✓	✓	✓	✓
Power feeders	1	✓	✓	✓		✓	
	2				✓		✓
Extension port	2xEthernet	✓	✓	✓	✓	✓	✓
	USB Host	✓	✓	✓	✓	✓	✓
	RS-485	✓	✓	✓	✓	✓	✓
	RF	✓					
SIM cards	2	✓		✓	✓	✓	✓
Backup supply	Battery	✓					
	Accum.	✓					
	Supply connector	✓	✓	✓	✓	✓	✓
WAN	2G					✓	
	2G/3G			✓	✓		✓
	2G/4G		✓				
	2G/3G/4G	✓					
FAN	PRIME, G3-PLC	✓	✓	✓	✓	✓	✓
	Hybrid: PLC-RF			✓	✓	✓	