kamstrup

Installation and user manual

OMNICON data concentrator

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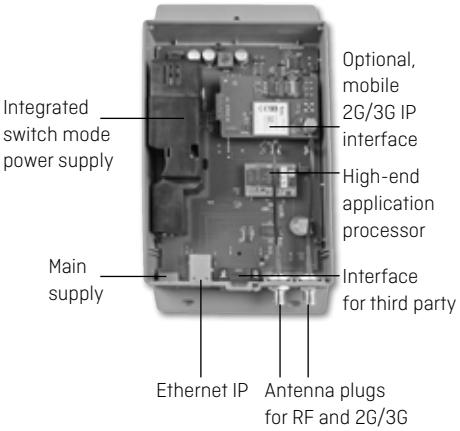
Content

1 Description

1.1 OMNICON data concentrator - in short

- Standardised wireless technology
- Easy plug and play installation
- Prepared for smart grid
- Multi-utility integration
- Automatic collection of metering data
- Support of firmware upgrade for the entire system
- Linux-based open source platform
- Integrated security and tamper detection
- Integrated VPN.



1.2 Metering data collection

OMNICON data concentrator automatically starts collecting relevant data and events (called conventional data) when the encryption keys from the OMNIPOWER meter have been received by the head-end system OMNISOFT UtiliDriver®.

1.3 Network maintenance

OMNICON data concentrator knows the network within its responsibility area and monitors and maintains a reliable and stable communication.

1.4 Detection and alarm

OMNICON data concentrator detects events and alarms from the meters, Multi-Utility Controller (MUC) and other communication units and sends these to the head-end system OMNISOFT UtiliDriver®.

1.5 Storage at WAN interruptions

If no WAN connection is available, conventional data is collected for 3 days, and when the WAN connection has been re-established, the concentrator sends these values to the head-end system OMNISOFT UtiliDriver®.

1.6 Data security

OMNICON data concentrator is part of the complete end-to-end data encryption scheme for OMNIA Suite.

This means that important commands are end-to-end encrypted as well as transport encrypted.

Conventional data is transport encrypted with AES128 and AES255, respectively.

OMNICON data concentrator uses an AES128 encryption algorithm towards the radio mesh network (Neighbourhood Area Network) with individual keys for each meter and other communication units.

OMNICON data concentrator uses an AES256 encryption algorithm towards the head-end system OMNISOFT UtiliDriver® (Wide Area Network) with individual keys for each concentrator.

In addition, it is possible to select VPN as secure tunnel.

The access to the web server of the concentrator is protected by TLS1.2 as well as username and password.

2 Installation of concentrator

2.1 Mechanical data

Dimensions (L x W x H) [mm]	261 x 145 x 58
Weight	740 g

Temperature range

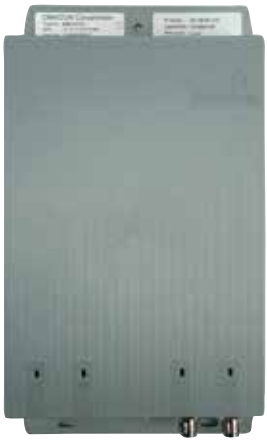
Operation	-40 °C...+70 °C
Storage	-40 °C...+70 °C

Protection class
IP20

2.2 Mounting order

1. Connect to 230 V (plug in the left hand corner).
2. Connect the IP cable (Ethernet/IP plug no. 2 seen from the left).
3. Connect a radio antenna (no. 2 plug from the right).
4. Connect a 2/3G antenna if 2/3G is required (the plug to the right).

2.3 Light emitting diodes



1. Check that the Power LED turns on (first LED from the left).
2. Check that the System LED turns on (no. 2 LED from the left)
   2.a. emits light when the concentrator is ready.
   2.b. emits light when the concentrator collects conventional data (has synchronised the time and had an encrypted connection within the past 3 days).
3. Check that the RF LED turns on (no. 2 LED from the right).
4. Check that the 2/3G LED turns on (first LED from the right). Emits light when it has received an IP via GPRS.

2.4 Service/IT requirements

1. On delivery, the concentrator has been configured by Kamstrup (see order form on Kamstrup's website).
2. Changes of the concentrator can be made from the web server of the concentrator (see guide on Kamstrup's website).
3. For setting up VPN, see white paper on the website
4. For setting up provisioning, see white paper on the website.

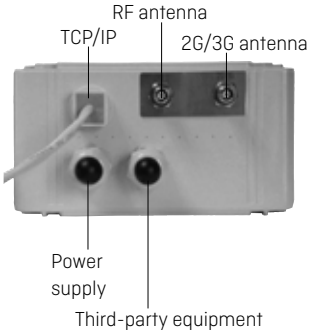
3 OMNICON data concentrator in outdoor box

- Designed for outdoor installation
- Robust design
- Easy installation
- Antenna plugs for RF and 2G/3G
- Built-in breaker and fuse
- Room for extra lightning protection

3.1 Mechanical data

Size [mm]	200 x 400 x 135
Weight	3.5 kg
– incl. installation kit	5.0 kg
IP class	IP54
Antenna plug type [RF and 2G/3G]	TNC (f)

3.2 Inputs



3.3 Accessories

External antennas

– Box: 12 pcs. with 7.5 m cable + TNC (male)	6880 001
– Box: 9 pcs. with 7.5 m cable and bracket + TNC (male)	6880 002
– Box: 12 pcs. with 4.5 m cable + TNC (male)	6880 007
– Box: 9 pcs. with 4.5 m cable and bracket + TNC (male)	6880 008

Antenna cable

– 7.5 m cable + TNC (m)	6880 003
– 15 m cable + TNC (m)	6880 004

Installation kit for OMNICON data concentrator	6699 469