

(DK – MT100) data concentrator with a three-phase PLC module and total energy measurement



Data concentrator is a communication interface between central system and individual take-off points. There are temporarily stored data from communication units (at electrometers and other meters) in the range of one distribution transformer. The whole equipment is placed inside of metal sheet cabinet with IP65 protection in the neighbourhood of LV network distribution transformer.

Basic components:

- Industrial grade computer with software equipment
- Three-phase PLC module
- Three-phase electrometer for total direct electrical energy measurement (appropriately three-phase network analyzer)
- GPRS communication channel (or ethernet, LAN etc.)
- Backup power supply for the case of electrical energy failure
- Other elements for safety and control

PLC communicator:

Input power – stand-by mode	app. 8 VA
– during transmission mode	app. 12–16 VA

High frequency signal:

Carrier frequency in the range of	70 kHz–145 kHz
Amplitude on $R_z = 10 \Omega$	app. 10 V _{pp}
Current	app. 0.8 A _{pp}
Input sensitivity	app. 1 mV
S/N ratio	min. 9 dB

Serial interface:

RS 232 COM1

Connector	Cannon 9 female connector
Transmission rate adjustable	300 to 115 200 Bd
Data format	8-N-1
Usage	data transmission to PC, PLC
Hardware control	YES
Galvanic isolation	NO

RS 232 COM2

Connector	Cannon 9 female connector
Transmission rate adjustable	115 200 Bd
Data format	8-N-1
Usage	data transmission to PC – service mode
Hardware control	NO
Galvanic isolation	NO

Climate environment	normal
Operation temperature	-40 °C to +70 °C
Limit temperature	-40 °C to +70 °C
Storage temperature	-40 °C to +70 °C
Protection	IP65