# UMD 707DC - Measuring equipment for the DIN top hat rail

Download data sheet

## UMD 707DC

The UMD 707DC is a compact, high-end direct current measurement device for installation on the DIN top hat rail. It measures 5-channel direct or alternating currents, as well as direct and alternating voltages, including the network quality (up to 128th harmonics) and voltage dips from 40 µsec.

The measurement is carried out via the JS H-series transformers (Hall Effect). The device has a large 512 MB memory. The device can be accessed via the Ethernet interface and live measured values can be observed using the web browser via the corresponding web server. Therefore, internet protocols such as NTP can also be read in.

PLC systems and building management systems can be connected easily via modbus TCP. Digital inputs/outputs and a serial RS485 interface are integrated. The GO firmware module is used to activate oscilloscope functions for current and voltage, and to set trigger signals for limit value events. A PT100 input is also provided.

A special power unit (15V) is required to supply the power of the JS transformers (Hall Effect). The DC Power Compact6 power unit is supplied as standard with the UMD 707DC.


## Application

The device is mainly used for measuring direct and alternating currents.

### Standard

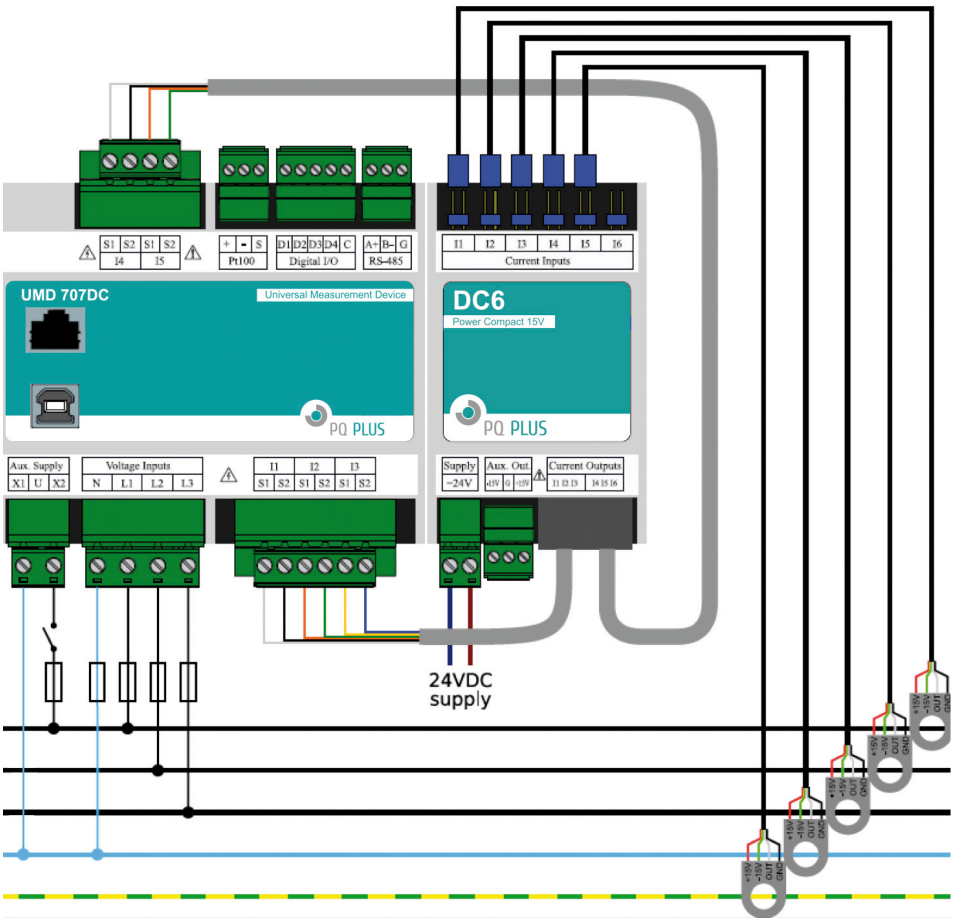
INPUTS 3U, 5I
HARMONICS 128
SAMPLING 28,8 kHz
SUPPLY 230V
USB
ETH
NTP
INPUTS Pt100
INPUTS/OUTPUTS 4xDIGI
INPUTS DC
WEBSERVER
BATTERY
FLASH 512MB
RS485
MODBUS Modbus

### Optional

STANDARDS class S IEC 61000-4-30
FIRMWARE GO
SUPRAHARMONICS 2 kHz...9 kHz
FIRMWARE RCS
STANDARDS EN 50160

| Supply voltage | | Measurement voltage | Transformer inputs | Functions | | | | Communication | | | | Type | Item number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 65 - 275 V AC 75 - 350 V DC | | 5 - 1470 V LL 0 - 1200 V DC | Number | Digital inputs/ outputs | Memory size in MB | Clock | Pt100 input | RS485 | Ethernet | Gateway Modbus master | USB | | |
| • | | • | 5 | 4 | 512 | • | • | • | • | • | • | UMD 707DC | 11.45.2110 |

## Typical connection variant – UMD 707DC



# Technical specifications - UMD 707DC

| | | UMD 707DC | | | | | |
|---|---|---|---|---|---|---|---|
| Inputs and outputs | Digital inputs/outputs | 4 digital inputs/outputs | | | | | |
| | Relay inputs/outputs | None | | | | | |
| | Analogue inputs/outputs | None | | | | | |
| | Differential current inputs | None | | | | | |
| | Temperature inputs | 1 Pt100 input -50 - 170 °C | | | | | |
| Communication | Interfaces | RS485, Ethernet, Front-USB | | | | | |
| | Communication protocols | Modbus RTU, Modbus TCP/IP, SMTP, SNMP, DHCP, JSON | | | | | |
| Further functions | Alarms | integrated logic: Limit values for exceeding/falling below freely defined values | | | | | |
| | Internal temperature measurement | -40 - 85 °C | | | | | |
| Data logger | Storage capacity and allocation | 512 MB flash freely partitionable into several archives | | | | | |
| | Measured value storage | Freely configurable measured values with different averaging intervals | | | | | |
| Electrical connection | Supply voltage | 230 V variant: 85 - 250 V AC / 85 - 270 V DCc | | | | | |
| | | | | | | | |
| | Power input | 10 VA / 5 W | | | | | |
| | Overvoltage category | CAT III / 300 V | | | | | |
| Accuracy classes | | Voltage: | Cl. 0.1 | Current: | Cl. 0.1 | Frequency: | Cl. 0.02 |
| | | Active power: | Cl. 0.2 | Reactive power: | Cl. 1 | Apparent power: | Cl. 0.2 |
| | | Harmonic oscillations: | Cl. 1 | Power factor: | Cl. 0.5 | cos phi: | Cl. 0.5 |
| | | Real energy: | Cl. 0.2S | Reactive energy: | Cl. 2 | Apparent energy | Cl. 0.5 |
| Measuring inputs | Voltage | U L-N: 3 - 850 V AC / 0 - 1200 V DC | | | | | |
| | | U L-L: 5 - 1470 V AC | | | | | |
| | Overload voltage | Permanent U L-N: 1300 V / peak overload for max. 1 sec. U L-N: 2210 V | | | | | |
| | Input impedance voltage | 3.9 MOhm | | | | | |
| | Input load voltage | < 0.1 VA | | | | | |
| | Frequency | 40 ... 70 Hz (DC-500 mode: 0 ... 500 Hz) | | | | | |
| | Transformers | 5x ±4 V | | | | | |
| | Overload current | Permanent: 12 V / peak overload for max. 1 sec: 50 V | | | | | |
| | Input impedance current | 100 Ohm | | | | | |
| | Input load current | < 0.2 VA | | | | | |
| | Sampling rate | 28.8 kHz | | | | | |
| | Harmonics per order | 1st ... 128. for current and voltage; Optional: Supraharmonics from 2 kHz ... 9 kHz | | | | | |
| | Measurement procedure | IEC 61000-4-30 Cl. S | | | | | |
| Mechanical attributes | Operating temperature range | -25 - 60 °C at < 95 % relative humidity | | | | | |
| | Bearing temperature range | -30 - 80 °C at < 95 % relative humidity | | | | | |
| | Protection class front / total | IP 40 / IP 20 | | | | | |
| | Dimensions WxHxD | 108 x 90 x 61 mm | | | | | |
| | Weight | 0.3 kg | | | | | |
| Internal real-time clock | Accuracy | +/- 0.2 s per day at 0 - 40 °C | | | | | |
| | Possible synchronisation | NTP/SNTP; External GPS receiver; External pulses; System frequency; PC time | | | | | |
| FW Module | | PQ S: optional | | GO: optional | | RCS: optional | |
| | | MM: optional | | UDP: optional | | IEC104: optional | |
| | | SH: optional | | | | | |

* depending on the variant