

UMD 705 – New measurement technology for DIN rails, also for CAT IV environments

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data sheet

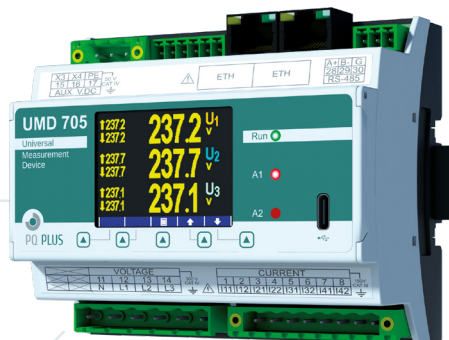


Measurement inputs:
4x voltage, 4x current,
1x RCM, 1x Pt100

Voltage measurement:
up to 1400 V

Current measurement:
1 / 5 A or 333 mV*

*Integrated signal converter



Measurement category:
CAT IV / 300 V

Sampling rate: 14.4 kHz

24-bit analog-to-digital converter

Update rate of measured
values: up to 40 ms



Harmonics:
up to the 128th harmonic

Evaluation in accordance with
EN 50160: Class S

Oscillogram recording:
Free parameterization of triggers
and recording duration



Accuracy of voltage measure-
ment: Class 0.1

Accuracy of current measure-
ment: Class 0.05

Accuracy active power / energy:
0.2 / 0.2S

Accuracy reactive power/work:
0.5/0.5S



Communication interfaces:
Ethernet, RS485, Local Bus,
Front USB

Communication protocols:
e.g. Modbus, MQTT,
IEC 60870-5-104

Connection of slave devices:
storage, mapping, and display of
slave data

Areas of use

Distribution substation
Building automation
Data centre
Hospital
Distributed energy generation

Standard

INPUTS 4U, 4I	MEASUREMENT U,I,P,Q	PF,cos,THD	+/- Wh,varh	INPUTS/OUTPUTS 1xDIGI	WEBSERVER
INPUTS RCM	FLASH 512MB	USB	STANDARDS IEC 61557-12	INPUTS Pt100	RS485
MODBUS 	STANDARDS class 0.2S IEC 62053-22	HARMONICS 128	ETH	NTP	CAT IV

Optional

STANDARDS class S IEC 61000-4-30	STANDARDS EN 50160	FIRMWARE GO	CURRENT INPUT X/5A
FIRMWARE MQTT	FIRMWARE RCS	LOCAL BUS	FIRMWARE IEC104
SUPPLY 12V/24V/230V	CURRENT INPUT 333mV		

Technical Specification – UMD 705

		UMD 705RCM-T		UMD 705LB			
In- and outputs	Digital in-/outputs	1 input/output		1 input/output			
	Analogue in-/outputs	none		none			
	Relay in-/outputs	1 input (for RCM or 0/4 ... 20 mA)		1 input (for RCM or 0/4 ... 20 mA)			
	Residual current inputs						
	Temperature inputs	1 Pt100 input -50 ... 150 °C		1 Pt100 input -50 ... 150 °C			
Communication	Interfaces	RS485, Ethernet, Front-USB		RS485, Ethernet, Front-USB, Local Bus			
	Communication protocols	Modbus RTU, Modbus TCP/IP, SMTP, SNMP, DHCP, JSON, MQTT					
Further functions	Alarms	Integrated logic: Limit values for exceeding/falling below freely definable values					
	Internal temperature measurement	-40 ... 80 °C					
Data logger	Storage capacity and distribution	512 MB Flash free partitioning into several archives possible					
	Measured value storage	Freely configurable measured values with different averaging intervals					
Electrical connection	Supply voltage	230 V-Variant: 150 ... 300 V AC / 150 ... 300 V DC					
		24 V-Variant: 17 ... 30 V DC					
	Power consumption	8 VA / 4 W					
	Overvoltage category	Category IV					
Accuracy classes		Voltage:	Cl. 0.1	Current:	Cl. 0.05	Frequency:	Cl. 0.02
		Active power:	Cl. 0.2	Reactive power:	Cl. 0.5	Apparent power:	Cl. 0.2
		Harmonics:	Cl. 2	Power factor:	Cl. 0.5	cos phi:	Cl. 0.5
		Active energy:	Cl. 0.2S	Reactive energy:	Cl. 0.5S	Apparent energy:	Cl. 0.2
Measurement inputs	Voltage	U L-N: 3 ... 800 V AC					
		U L-L: 5 ... 1400 V AC					
	Overload voltage	Continuous U L-N: 1300 V AC / Peak overload for max. 1 sec. U L-N: 2210 V AC					
	Input impedance voltage	2 MOhm					
	Input load voltage	< 0.1 VA					
	Frequency	40 ... 70 Hz (DC-500 mode: 0 ... 500 Hz) / Measurement uncertainty ±10 mHz					
	Current transformers	4x 1 / 5 A; Optional: 4x 333 mV					
	Current overload	Continuous: 12 AAC (5 V) / Peak overload for max. 1 sec: 70 AAC (15 V)					
	Input impedance current	< 20 mOhm / 20 kOhm					
	Input load current	< 2 VA / < 60 µVA					
	Sampling rate	14.4 kHz					
	Harmonics per order	1. ... 128. for current and voltage					
	Measuring method	IEC 61000-4-30 Cl. S					
Mechanical properties	Operating temperature range	-25 to 60 °C at < 95% relative humidity					
	Temperature range bearing	-40 to 80 °C at < 95% relative humidity					
	Protection type front / total	IP 40 / IP 20					
	Dimensions WxHxD	108 x 90 x 61 mm					
	Weight	0.5 kg					
Internal real-time clock	Accuracy	+/- 0.3 s per day at 0 ... 40 °C					
	Possible synchronisation	NTP/SNTP; External GPS receiver; External pulses; System frequency; PC time					
FW modules		PQ S: optional		GO: optional		RCS: optional	
		MM: optional		MQTT: optional		IEC104: optional	

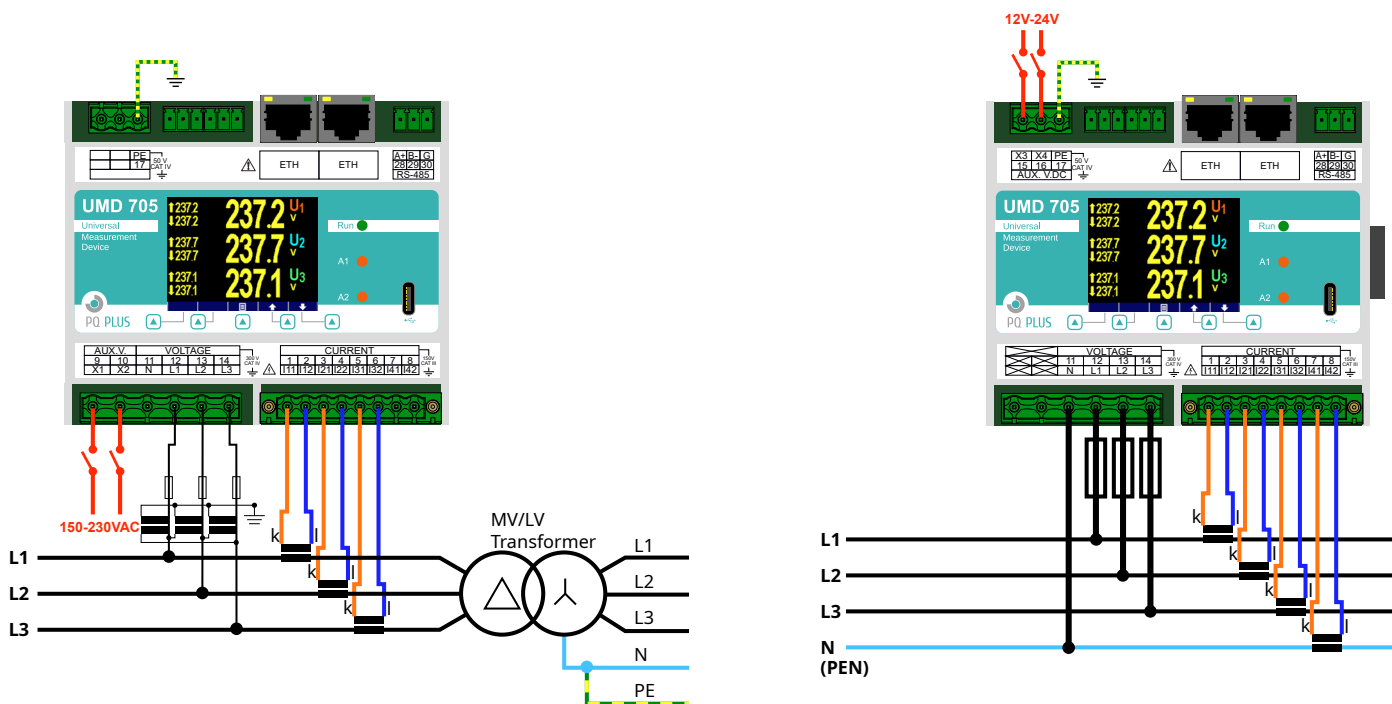
Supply voltage		Mea- suring voltage	Functions					Communication				Type	Item number
208 - 277 V AC 150 - 300 V DC	17 - 30 V DC	5 - 1400 V LL	RCM input	Digital in- / outputs	Memory size in MB	Clock	Pt100 input	RS485	Ethernet	Local Bus	USB		
•	-	•	1	1	512	•	•	•	•	-	•	UMD 705RCM-T*	11.17.1125
-	•	•	1	1	512	•	•	•	•	•	•	UMD 705LB*	11.17.3131
Flex variants with small signal input													
•	-	•	1	1	512	•	•	•	•	-	•	UMD 705RCM-T Flex	11.17.9125
-	•	•	1	1	512	•	•	•	•	•	•	UMD 705LB Flex	11.17.9131

* Preferred types

For the UMD 705 Flex variants, we offer our KBU Twin rogowski coils.
These can be found in the catalog under the heading "Current transformers"

Accessories		Item number
	HBus module for Local Bus	80.12.0000
	USB-C connection cable, 3.0 m	18.21.2021
	HL-Adapter	80.12.0005

Typical connection version - UMD 705



Dimension drawings - UMD 705

