

8. Technical data

GENERAL METERING PROPERTIES				
Reference voltage U_r	3x230/400 V, 3x230 V, 3x400 V, 230 V (other voltage on request)			
Voltage range	0.8 U_r ... 1.15 U_r			
Thermal current	1.2 I_{max}			
Max. current I_{max}	Dir. connected meter: 85 A or 120 A CT operated meter: 6 A			
Short-circuit current	30 x I_{max}			
Reference frequency	50 Hz or 60 Hz			
METERING PROPERTIES BY IEC 62053-21 and -23				
Accuracy class for active energy	2 or 1			
Accuracy class for reactive energy	3 or 2			
Accuracy class for apparent energy	3 or 2			
Direct connected meters				
Basic current I_b	5 A		10 A	
Starting current I_{st}	Class 2 0.025 A	Class 1 0.02 A	Class 2 0.05 A	Class 1 0.04 A
CT operated meters				
Basic current I_b	1 A			
Starting current I_{st}	20 mA			
METERING PROPERTIES BY EN 50470-3				
Mechanical environment	M1			
Electromagnetic environment	E1			
Accuracy class for active energy	A or B			
Direct connected meters				
Reference current I_{ref}	5 A		10 A	
Transitional current I_{tr}	0.5 A		1 A	
Minimum current I_{min}	Class A 0.25 A	Class B 0.25 A	Class A 0.5 A	Class B 0.4 A
Starting current I_{st}	0.025 A	0.02 A	0.05 A	0.04 A
CT operated meters				
Reference current I_{ref}	1 A			
Transitional current I_{tr}	100 mA			
Minimum current I_{min}	50 mA			
Starting current I_{st}	20 mA			
OTHER METER PROPERTIES				
Meter constant (per LED)	500 imp/kWh at $I_{max} = 120$ A 500 imp/ kvarh at $I_{max} = 120$ A 500 imp/ kVAh at $I_{max} = 120$ A 1.000 imp/kWh at $I_{max} = 85$ A 1.000 imp/ kvarh at $I_{max} = 85$ A 1.000 imp/ kVAh at $I_{max} = 85$ A 10.000 imp/kWh at $I_{max} = 5$ A 10.000 imp/ kvarh at $I_{max} = 5$ A 10.000 imp/ kVAh at $I_{max} = 5$ A			

Operating temper. range	-40°C ... +60°C (for LCD : -25°C ... +60°C)
Extended temper. range	-40°C ... +70°C
Storing temperature	-40°C ... +80°C
Relative humidity	95%, non-condensing
Voltage circuit burden	< 0.6 W / 10VA (without RS485) < 0.8 W / 10VA (with RS485)
Current circuit burden	< 0.16 VA (irrespective of reference / basic current)
RTC	
Time base	Quartz crystal 32 kHz
Long-term accuracy of RTC	< 0.5 s/day at reference condition
Time-keeping vs. temperature	< 0.15 s°C/day
Back-up power supply	5 years (Li-battery power supply source)
Li-battery life-time	20 years
LOAD PROFILE RECORDER	
No. of channels	max. 8
Registration period	5 min, 15 min, 30 min, 60 min
OPTICAL INTERFACE	
Optical interface	IEC 62056-21 (IEC 61107)
Protocol	IEC 62056-21 (IEC 61107) Mode C
Data identif. code	OBIS (IEC 62056-61)
Default data transmission rate	default 9.600 bit/s (on request up to 19,200 bit/s)
RS485 INTERFACE (option)	
Protocol	IEC 62056-21 (IEC 61107) Mode C
Data identif. code	OBIS (IEC 62056-61)
Data transmission rate	default 9.600 bit/s (on request up to 19,200 bit/s)
Loop length	1.200 m
Meters in a loop	max. 31
OUTPUTS	
No. of outputs	1 or 2
Impulse output	IEC 62053-31 class A (S0 in compliance with DIN 43864) or optomos relay with make contact
Tariff output	Optomos relay with make contact (option instead of of impulse output)
INPUTS	
No. of tariff inputs	1 or 2
Control voltage	U_r
METER RESISTANCE TO ELECTROMAGNETIC DISTURBANCES	
Dielectric strength	4 kV, 50 Hz, 1 min
Electrostatic discharge	(IEC 61000-4-2) air discharge 15 kV contact discharge 8 kV
High-frequency el.magnetic field (80 MHz...2 GHz)	(IEC 61000-4-3) active: 20 V/m passive: 30 V/m
Fast transients (burst)	(IEC 61000-4-4) active: 6 kV passive: 6 kV
Surge voltage	(IEC 61000-4-5) 6 kV, 1.2/50 μ s
Conduct. disturb. Induced by RF fields	(IEC 61000-4-6) 20 V

(150 kHz...80 MHz)	
Impulse voltage	12 kV, 1,2/50 μ s - to main circuits 6 kV, 1,2/50 μ s - to auxiliary circuits
Radio interf. supr.	(EN 55022) class B equipment
DIMENSIONS AND MASS	
Meters with long terminal cover:	
Dimensions (w x h x d)	178 x 250 x 55 mm
Meters with short terminal cover:	

Dimensions (w x h x d)	177x 216 x 55 mm
Mass	approx. 1,0 kg
COMBUSTIBILITY OF METER CASE	
Class	V0 (Standard UL 94)
TORQUE FOR TERMINAL SCREWS	
Direct connected meters	2.5 Nm
CT operated meters	1.0 Nm