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 μs*
Conduct. disturb. Induced by RF fields	*(IEC 61000-4-6) 20 V*

(150 kHz...80 MHz)	
Impulse voltage	*12 kV, 1,2/50 μs - to main circuits* *6 kV, 1,2/50 μs - 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*
COMBUSTIBILIY OF METER CASE	
Class	*V0 (Standard UL 94)*
TORQUE FOR TERMINAL SCREWS	
Direct connected meters	*2.5 Nm*
CT operated meters	*1.0 Nm*