

Rayfull TC55M-DO

Three Phase Multifunctional Energy Meter, CT Operated, with Digital Output

The TC55M-DO is a three phase DIN rail energy meter that connects through external current transformers. It measures voltage, current, four-quadrant power, power factor, THD and bi-directional active and reactive energy on 1P2W, 2P3W, 3P3W and 3P4W networks, and provides one digital output for external control such as driving a contactor coil or an alarm.

- CT input 1A/5A, mV/mA or Rogowski coil
- Primary CT ratio 1 - 9999 A, PT input supported
- Voltage and current THD, maximum demand
- 1 digital output, 5 A 240 V AC / 5 A 30 V DC
- RS485 Modbus RTU / DL/T645-2007
- 4-module DIN rail housing



Electrical

Rated voltage	3 x 230/400 V AC; range 30 - 300 V L-N, 30 - 500 V L-L; 45 - 65 Hz; PT primary up to 500 kV
Current input	CT secondary 1 A / 5 A (default) or 100 mA/mV; primary 1 - 9999 A; range 0.003 - 6 A; overload 20x for 0.5 s
Networks	3P4W (default), 3P3W, 2P3W, 1P2W
Accuracy	Active energy Class 0.5S (IEC 62053-21/22); reactive Class 2 (IEC 62053-23); V//P Class 0.5; frequency Class 0.2
Measurements	V, A, W, var, VA, PF, Hz, voltage and current THD, maximum demand; total / import / export kWh and kvarh
Auxiliary supply	80 - 300 V AC / 100 - 420 V DC, < 4 VA / 0.5 W
Data update rate	1 s (100 ms optional)

Outputs

Digital output	1 output, 5 A 240 V AC / 5 A 30 V DC; a control contact, not a load disconnect - use an external contactor to switch a supply
Pulse output	Open collector optocoupler, 5 - 27 V DC, Class A (IEC 62053-31); 0.001 - 100 kWh/kvarh per pulse; width 60/100/200 ms
Pulse LED	5000 imp/kWh (secondary side)

Communication

Interface	2-wire RS485, semi-duplex, up to 1000 m, max. 64 devices per bus
Protocol	Modbus RTU (default), DL/T645-2007 (optional)
Settings	Address 1 - 247; 1200 - 38400 bps (default 9600); parity none/even/odd; 1 or 2 stop bits

Mechanical and environment

Mounting	TH35-7.5 DIN rail, 4 modules
Dimensions	72.0 x 100.0 x 65.3 mm (W x H x D)
Protection	LCD IP51 (indoor), meter body IP30; flammability UL 94 V-0
Terminals	All terminals 26 - 12 AWG, 0.5 N.m max
Wiring	Terminals 1 - 8: voltage inputs (via 1 A fast-blow fuses), auxiliary supply L/N and digital output (7, 8); terminals 33 - 44: CT inputs S1/S2 per phase, pulse +/-, RS485 A, B, G

Environment	Operating -25 to +55 C; storage -40 to +80 C; < 90% RH non-condensing; altitude < 2000 m
Safety	CAT III (IEC 61010-1), double insulation, 4 kV AC 1 min, 6 kV 1.2/50 us impulse

Rayfull Electric Technology (Zhejiang) Co., Ltd. Specifications are taken from the manufacturer user manual V1.0 and are subject to change without notice.