TPS Series

DIGITAL MULTI POWER METER

If you use this TPS multi-meter, you can measure 16 elements on the main display, and 21 elements on the sub-display.

TPI KOREA

www.tpikorea.com

TPS Multi-Power meter

Feature

- Package display (4 elements)
  16 elements can be displayed on the screen.
  High-speed digital operation system is adopted.
  Many elements are displayed on real time 1 screen with the combination by LCD display. Even when there is no lighting, it displays clearly with backlight.
- The same attachment as 110 wide angle meter.
  It possible to replace, since it is the same size (110type)
- Various outputs.
  Analog output 4~20mA 1~5V max 3ch and pulse output (Wh or varh). Digital output (RS485).
  Demand alarm relay output.(Demand Amp.or Demand Watt)
- It possible to measure 4 times rated current.
  Also in consideration of inrush current, it possible to measure up to 4 times of rated input current.

Specification

Measurement item	Measurement	Input range	Indication	Auxiliary power supply
Current (R,S,T)	3	0～5A (up to 20A)	Input current × CT ratio	AC 80~264 V : 6VA DC 80~143 V : 3.5W (32mA) DC 19~ 31 V : 3.5W (150mA)
Voltage (R-S, S-T, T-R)	3	0～150V or 0 ～300V (max 600V)	Input voltage × VT ratio	
Active power	1	0～1k W or 0 ～2kW	Input active power × CT ratio ×VT ratio	
Reactive power	1	LEAD 1kvar～ 0 ～LAG1kvar LEAD 2kvar～ 0 ～LAG2kvar	Input reactive power × CT ratio × VT ratio	
Power factor	1	LEAD 0 ～1～ LAG 0	LEAD 0.0 ～100.0 ～LAG0.0 %	
Frequency	1	45Hz ～65Hz	45.00 ～65.0 0 Hz	
Watt demand	1	0～1kW or 0 ～2kW	Input watt demand × CT ratio × VT ratio	
Amp demand (R,S,T)	3	0～5A (up to 20A)	Input current × CT ratio	
Active energy	1		0.000 ～ 999999 kWh	
Reactive energy	1		0.000 ～ 999999 kvarh	

Total: 16 measurements

Performance

Item	Specification
Tolerance	Current ・・・ ±0.3% Voltage ・・・ ±0.3% Active power ・・・ ±0.5% Reacti ve power ・・・ ±0.5% Power factor ・・・ ±0.03% Frequency ・・・ ±0.5% Watt demand ・・・ ±1.0% Amp demand ・・・ ±1.0% Active energy ・・・±1%+hour Reactive energy ・・・±1%+hour
Effect of temperature	±0.3% ／10℃
Response time	About 1 second
Insulation resistance	Over 100M Ω 500V DC
Withstand voltage	AC 2000V for 1 minute
Impulse test	6kV 1.2 ／50 μs
Vibration & shock	Vibration 10 ～55～10Hz 0.15mm Shock 490m/S² XYZ positive And negative each 3 times.

Environment and structure

Item	Specification	
Operating temp	-10 ～ 55℃	
Storage temp	-20 ～ 70℃	
Humidity	Under 8 5% RH	
Structure	Case	polycarbonate
	Cover	polycarbonate
	Terminal cover	polycarbonate
	Terminal screw	brass (M4, M3)
Weight	About 520 g	
Display element	LCD	

Output specification

Analog output with limiter	DC4 ～20mA 0 ～550 Ω DC1 ～5 V 600 Ω～∞
Pulse output	Active energy or reactive energy DC 125V 0.1A
Communication output	RS -485 2400 ～9600bps (MODBUS)
Relay output	Demand alarm. AC 250V 5A

Control input specification (Remote control of main display)

The measurement item of a main display can be changed by impressing voltage from the exterior.
Please impress the voltage of AC 80~264V, or voltage of DC 80~143V.If it impress once, an item will move to next.
Consumption current is about 2mA.

Control input specification (Alarm reset)

The alarm output can be cancelled by impressing voltage from the exterior. Please impress the voltage of AC 80~264V, or voltage of DC 80~143V.
If it impress once, the alarm output is cancelled and the operation replaces demand displays (MAX, MIN) with instantaneous measurements.
Consumption current is about 2 mA

TYPE NAME and SPEC No.

TPS — □□ —□ —□□

Item	No	Specification
Circuit	11	1P 2W 110V 5A
	12	1P2W 220V 5A
	21	1P3W 2×110V 5A
	22	1P3W 2×220V 5A
	31	3P3W ／3P4W 110V or 110 ／$\sqrt{3}$ 5A
	32	3P3W ／3P4W 220V or 220 ／$\sqrt{3}$ 5A
	33	3P3W ／3P4W 380V or 380 ／$\sqrt{3}$ 5A
	34	3P3W ／3P4W 440V or 440 ／$\sqrt{3}$ 5A
	99	Others (note 1)
Auxiliary power supply	1	DC 19~31V
	2	AC 80~264V and DC 80~143V
	9	Others
Option (Output)	00	Non
	15	DC 1~5V (3ch)
	18	DC 4~20mA (3ch)
	25	DC 1~5V (2ch) + Wh or varh pulse
	28	DC 4~20mA (2ch) + Wh or varh pulse
	31	RS 485 (Modbus)
	32	Demand Alarm + Reset
	55	DC1~5V(1ch) + Demand Alarm + Reset
	58	DC4~20mA(1ch) + Demand Alarm + Reset

Note 1: If you select spec No.99 , please consult with our company.
Example : 3P3W 230V 5A , 1P2W 110V 5A

Order Example

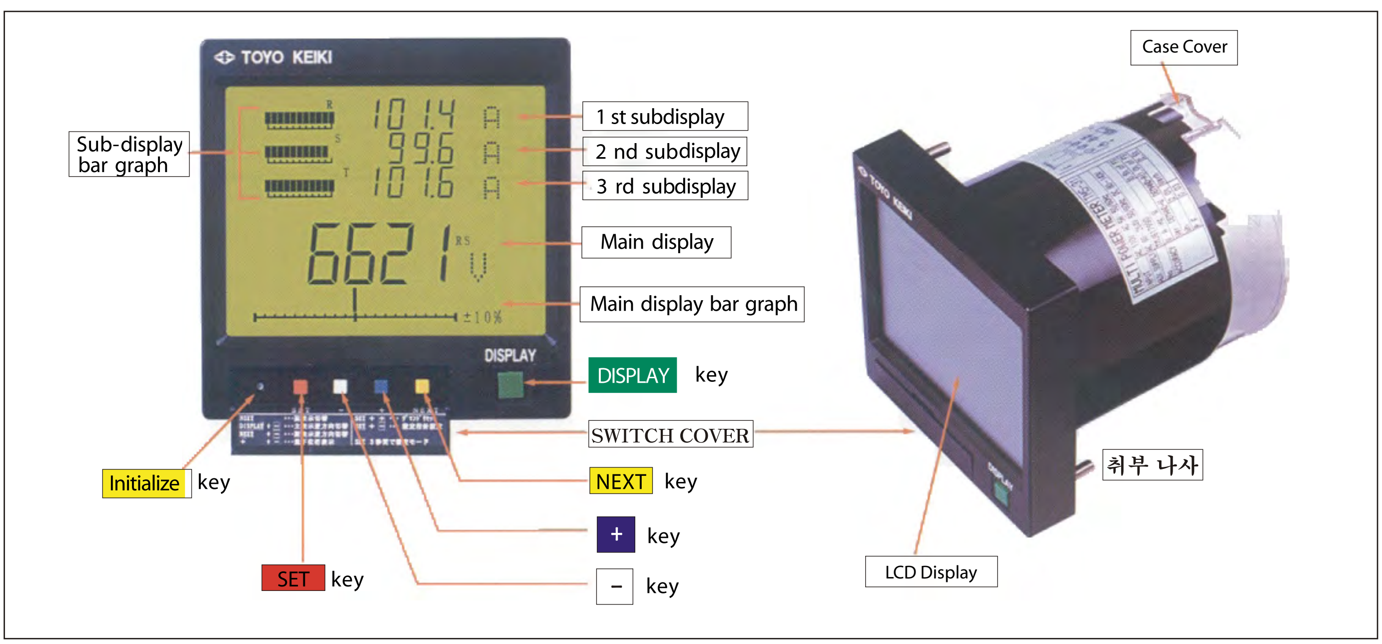
1.TYPE NAME	2.CIRCUIT	3.AUX power supply	4.Option
TPS	— □□	— □	— □□

Internal parameters can also be specified at the time of order. TPS is carried out with the specified parameters .
The setting parameters, which can be specified, are CT ratio, VT ratio, and the demand time limit.

Example TPS -31-2-28

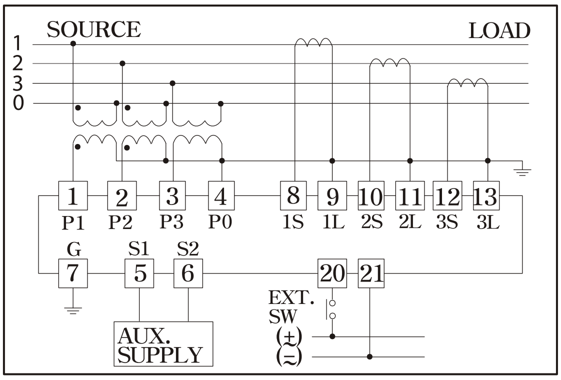
Circuit 3P3W
CT 100 ／5A, VT 3300 ／110V, Time limit 15 minutes
CH1 -- Effective power 4~20 mA
CH2 -- Current R phase 4~20 mA
Pulse -- Watt -hour 10kWh/1 pulse

Parts name and accessories

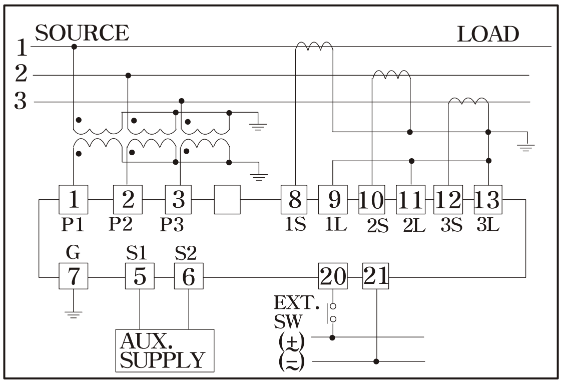


Connections

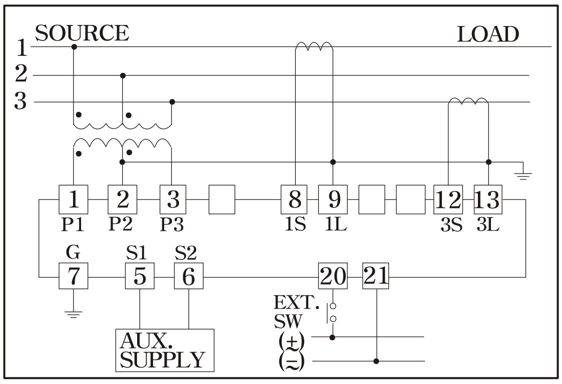
INPUT



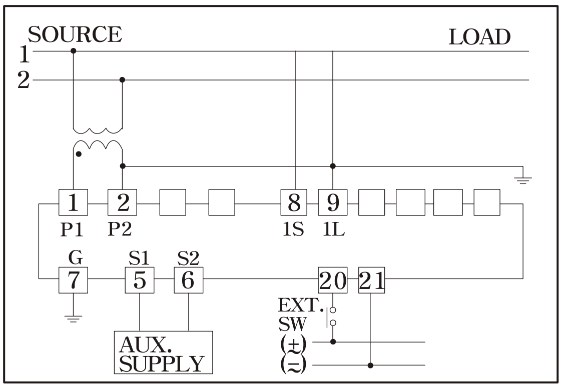
3P4W



3P3W (3PT, 3CT)

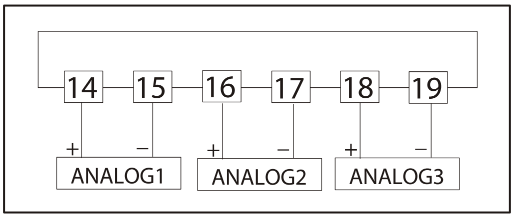


3P3W 1P3W

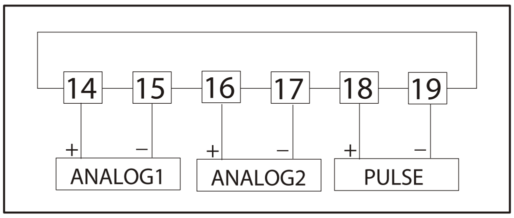


1P2W

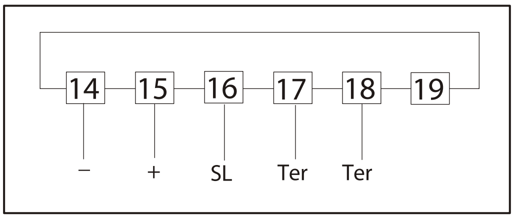
OUTPUT



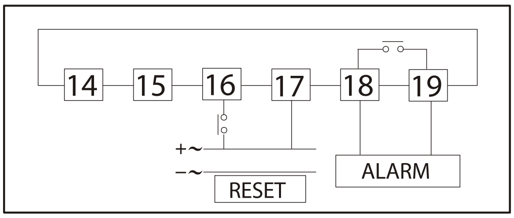
Analog output 3ch



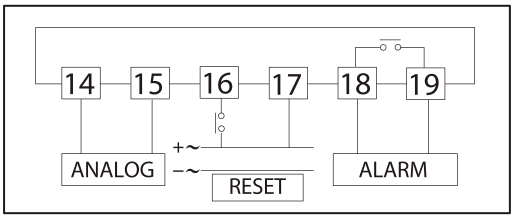
Analog out 2ch + Pulse out



RS-485

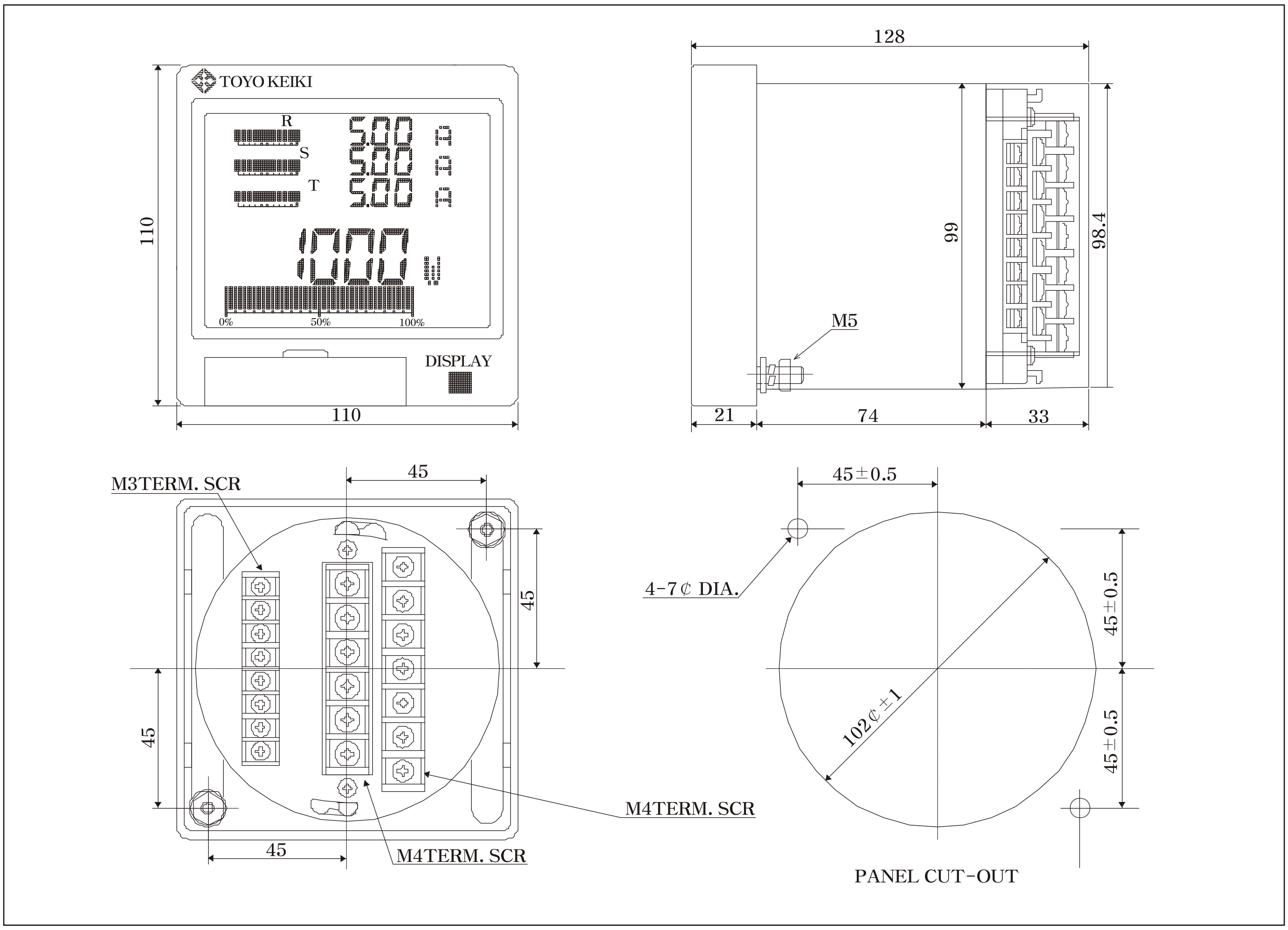


Alarm + Alarm reset



Analog 1ch + Alarm + Alarm reset

Case Dimensions



Precautions

Precautions in safety

- The handling of this product shall be carried out persons who have sufficient knowledge and skill to correctly use this.
- Connect all wiring's without any wrong connection after sufficiently identifying this connection diagram.
- Tighten screws surely. Slackening of screws may cause to generate heat and burning.
- Do not use this at any value exceeding the rated specification. It may cause a failure and an accident.
- Do not touch to the live part. Always cut out the circuit when maintained and inspected it.

TPI KOREA CO.

235-2, Kochen-Dong, Uiwang-Si, Kyounggi-Do, Korea
TEL : (031)501-8054 FAX : (031)501-8055
E-mail : sales@tpikorea.com www.tpikorea.com