

Power Multimeter (for 3-phase 4-wire measurement)

WKM-PEKFN



This multimeter measures 3-phase 4-wire electric energy and displays it on the LCD panel. It pursues fundamental meter “viewability.” It supports LonWorks (TP/FT-10) communication output.

Measurement and monitoring of power receiving/distributing facilities and equipment / Monitoring and management of peak values and bottom values of active power, current (each phase), etc.

Features

- ★ Supports 3-phase 4-wire measurement.
- ★ High-visibility 4.2-inch large LCD and white LED backlight
- ★ Display 4 elements at once. (1 bar graph & 3 numeral display)
- ★ Multi-range voltage.
- ★ Mesures 12 elements (Current, electric energy, etc.)
- ★ RoHS conform.

Ordering code

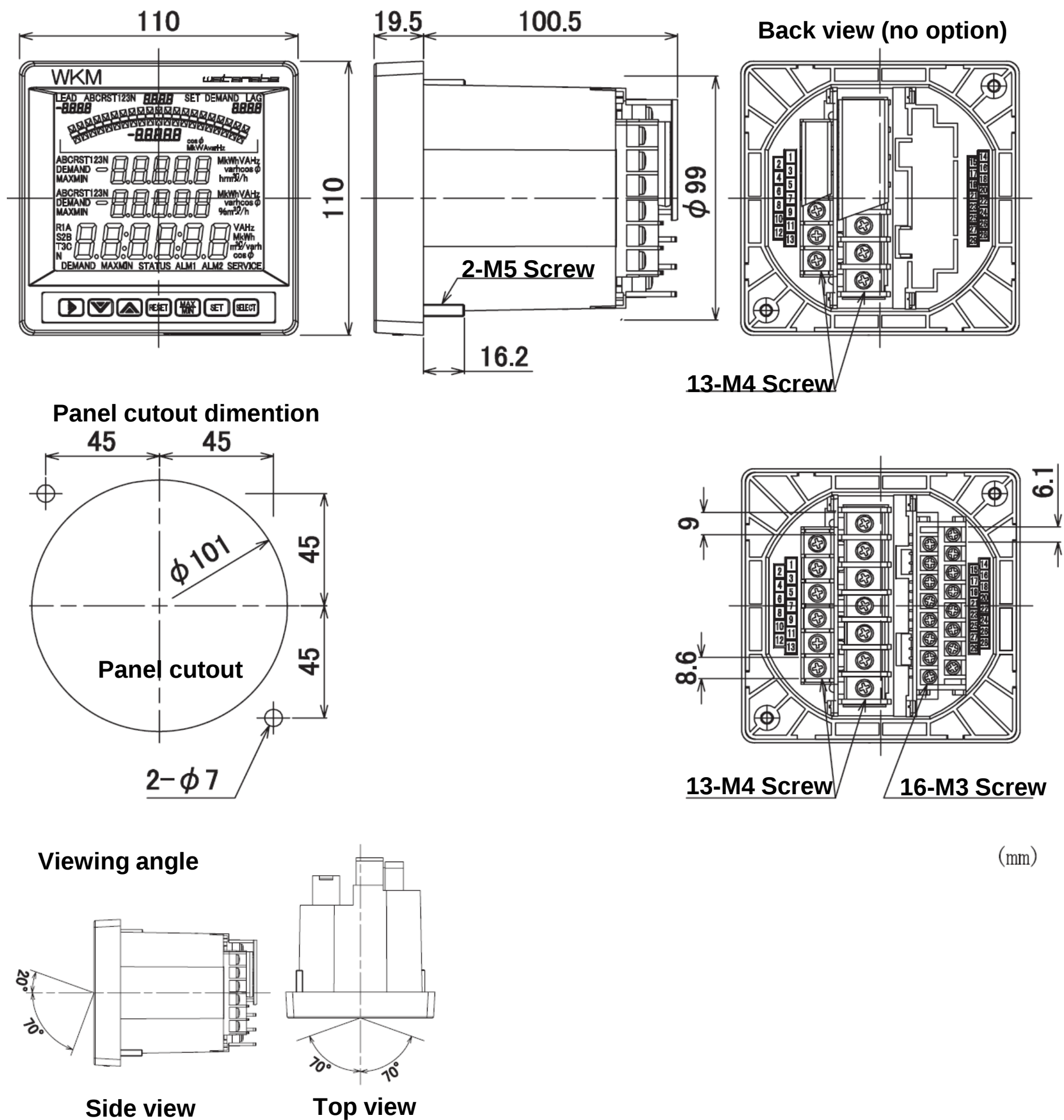
WKM-PE KF N-05U A 00-34 -

| Series | Type | Option | LDC direction | Rated current | Power supply | Test report | Rank suffix | Phase wire | Rated voltage | Display pattern | Description                                                                         |
|--------|------|--------|---------------|---------------|--------------|-------------|-------------|------------|---------------|-----------------|-------------------------------------------------------------------------------------|
| WKM    |      |        |               |               |              |             |             |            |               |                 | 110mm multimeter                                                                    |
|        | PE   |        |               |               |              |             |             |            |               |                 | Standard power measuring                                                            |
|        |      | KF     |               |               |              |             |             |            |               |                 | LON WORKS (TP / FT-10) + 2 digital input                                            |
|        |      |        | N             |               |              |             |             |            |               |                 | The upper row installation (bottom up)                                              |
|        |      |        |               | 05U           |              |             |             |            |               |                 | 5Aac (dedicated split CT) CTL-10-CL-S-9-05                                          |
|        |      |        |               |               | A            |             |             |            |               |                 | 85 to 242Vac (50 / 60Hz), 90 to 132Vdc                                              |
|        |      |        |               |               |              | X           |             |            |               |                 | None                                                                                |
|        |      |        |               |               |              | T           |             |            |               |                 | With test report                                                                    |
|        |      |        |               |               |              |             | 00          |            |               |                 | Standard                                                                            |
|        |      |        |               |               |              |             |             | 34         |               |                 | 3-phase 4-wire                                                                      |
|        |      |        |               |               |              |             |             |            | 1             |                 | [Default settings] 110Vac $\sqrt{3}$ (=65.3V) (phase voltage) / 100V (line voltage) |
|        |      |        |               |               |              |             |             |            | 2             |                 | [Default settings] 220Vac $\sqrt{3}$ (=127V)(phase voltage) / 220V (line voltage)   |
|        |      |        |               |               |              |             |             |            |               | 01              | [Default settings] Display pattern 1                                                |
|        |      |        |               |               |              |             |             |            |               | 02              | [Default settings] Display pattern 2                                                |
|        |      |        |               |               |              |             |             |            |               | 03              | [Default settings] Display pattern 3                                                |
|        |      |        |               |               |              |             |             |            |               | 04              | [Default settings] Display pattern 4                                                |
|        |      |        |               |               |              |             |             |            |               | 05              | [Default settings] Display pattern 5                                                |
|        |      |        |               |               |              |             |             |            |               | 06              | [Default settings] Display pattern 6                                                |
|        |      |        |               |               |              |             |             |            |               | 07              | [Default settings] Display pattern 7                                                |

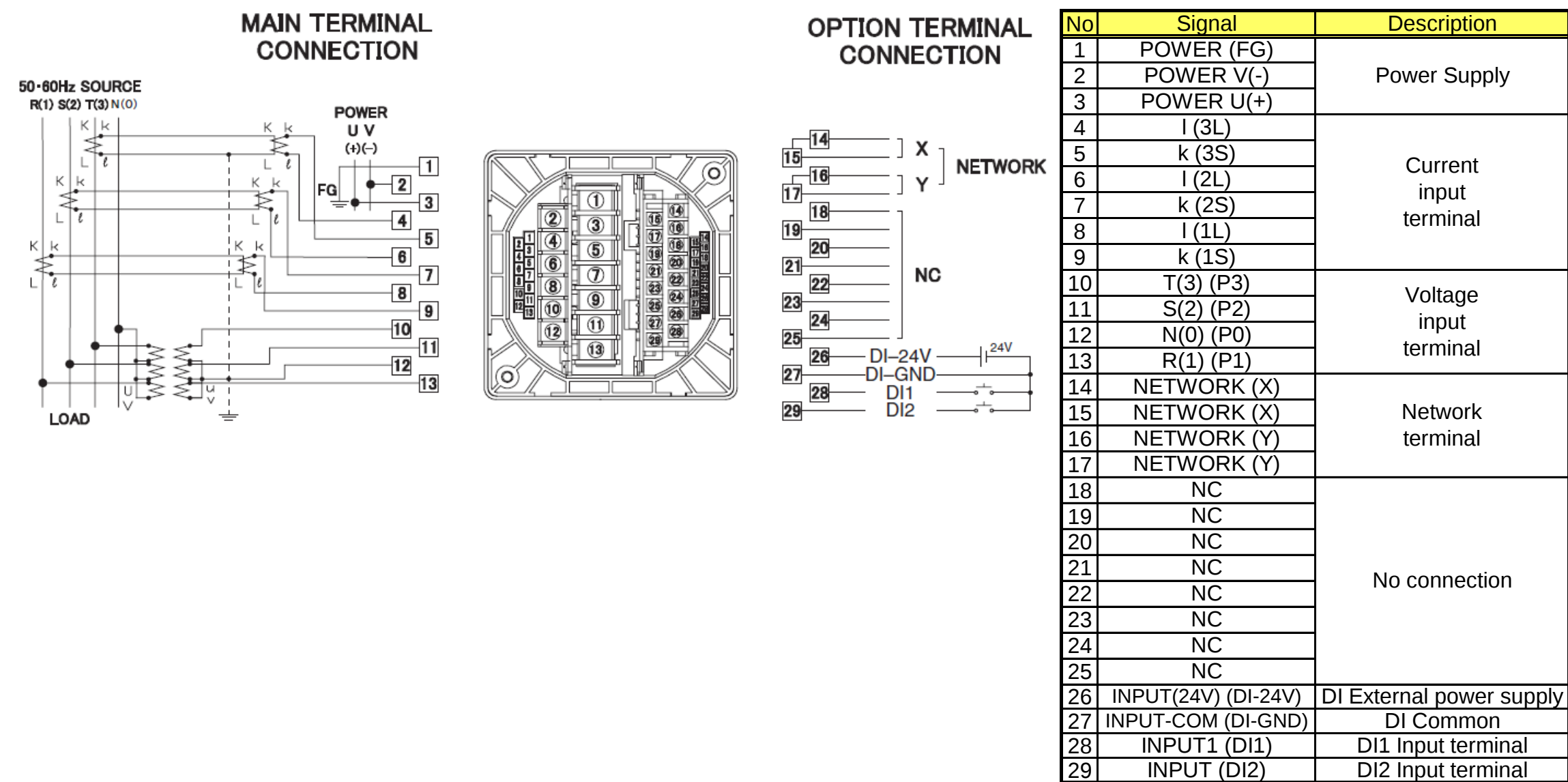
Specifications

|                             |                                                                                                                                                   |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Input signal                | Current : 5A (input from dedicated split CT required)<br>Voltage : 110V / 220V (configurable)                                                     |
| Measuring circuit           | Single power circuit: 3-phase 4-wire                                                                                                              |
| Measuring element           | Active/reactive power, active/reactive electric energy, current, voltage, power factor, frequency, maximum of each factor, minimum of each factor |
| Transceiver                 | TP/FT-10                                                                                                                                          |
| Accuracy                    | Active power: ±1% FS<br>Active electric energy: ±1% FS<br>Current/voltage: ±1% FS                                                                 |
| Power voltage               | 85 to 242Vac / 90 to 132Vdc                                                                                                                       |
| Display factors             | Active/reactive power, active/reactive electric energy, current, voltage, power factor, frequency, maximum of each factor, minimum of each factor |
| Operating temperature       | -5 to +55°C                                                                                                                                       |
| Operating relative humidity | 90% or less (non-condensing)                                                                                                                      |
| Temperature coefficient     | ±0.01% FS of span per °C                                                                                                                          |
| Insulation resistance       | 100MΩ or more with a 500Vdc megger                                                                                                                |
| Withstand voltage           | 2000 Vac for 1 minute                                                                                                                             |
| Power consumption           | Approx. 7.7VA (220V) /<br>Approx. 6VA (100Vac) /<br>Approx. 70mA (110Vdc)                                                                         |
| Dimention                   | 110(H) X 110(W) X 120(D)mm                                                                                                                        |
| Weight                      | Approx. 400g                                                                                                                                      |
| Mounting                    | Panel mount                                                                                                                                       |

Dimensions



Terminal Connections



Display pattern

| Pattern | Display    | Display 1       | Display 2        | Display 3        | Display 4        | Display 5        | Display 6<br>(Wh) | Display 7<br>(varh) | Display 8<br>(varh) | Display 9<br>(varh) | Display 10<br>(DI 1ch(1)) | Display 11<br>(DI 1ch(2)) | Display 12<br>(DI 2ch(1)) | Display 13<br>(DI 2ch(2)) |
|---------|------------|-----------------|------------------|------------------|------------------|------------------|-------------------|---------------------|---------------------|---------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 1       | Top Low    | A               | A                | A                | A                | A                |                   |                     |                     |                     | -                         | -                         | -                         | -                         |
|         | Middle Low | W               | W                | W                | cosφ             | cosφ             |                   |                     |                     |                     | DI                        | Pulse Counter             | DI                        | Pulse Counter             |
|         | Bottom Low | Vn              | Vv               | cosφ             | Vn               | Vv               |                   |                     |                     |                     | On time                   | Pulse Counter             | On time                   | Pulse Counter             |
| 2       | Top Low    | A               | A                | A                | A                |                  | -                 |                     |                     |                     | -                         | -                         | -                         | -                         |
|         | Middle Low | Vn              | Vv               | W                | cosφ             |                  | -                 |                     |                     |                     | DI                        | Pulse Counter             | DI                        | Pulse Counter             |
|         | Bottom Low | Wh              | Wh               | Wh               | Wh               |                  | Wh                |                     |                     |                     | On time                   | Pulse Counter             | On time                   | Pulse Counter             |
| 3       | Top Low    | A               | A                | A                | A                | A                |                   |                     |                     |                     | -                         | -                         | -                         | -                         |
|         | Middle Low | cosφ            | cosφ             | cosφ             | cosφ             | cosφ             |                   |                     |                     |                     | DI                        | Pulse Counter             | DI                        | Pulse Counter             |
|         | Bottom Low | Vn              | Vv               | W                | var              | Hz               |                   |                     |                     |                     | On time                   | Pulse Counter             | On time                   | Pulse Counter             |
| 4       | Top Low    | A               | A                | A                | A                | A                | -                 | -                   | -                   | -                   | -                         | -                         | -                         | -                         |
|         | Middle Low | Vn + Vv         | W                | var              | cosφ             | Hz               | -                 | -                   | -                   | -                   | DI                        | Pulse Counter             | DI                        | Pulse Counter             |
|         | Bottom Low | Wh              | Wh               | varh             | Wh               | Wh               | Wh                | varh                | varh                | varh                | On time                   | Pulse Counter             | On time                   | Pulse Counter             |
| 5       | Top Low    | cosφ            | Hz               |                  |                  |                  |                   |                     |                     |                     | -                         | -                         | -                         | -                         |
|         | Middle Low | W               | W                |                  |                  |                  |                   |                     |                     |                     | DI                        | Pulse Counter             | DI                        | Pulse Counter             |
|         | Bottom Low | var             | var              |                  |                  |                  |                   |                     |                     |                     | On time                   | Pulse Counter             | On time                   | Pulse Counter             |
| 6       | Top Low    | A               | Vn               | Vv               | A                |                  |                   |                     |                     |                     | -                         | -                         | -                         | -                         |
|         | Middle Low | A<br>(phase +1) | Vn<br>(phase +1) | Vv<br>(phase +1) | Vn               |                  |                   |                     |                     |                     | DI                        | Pulse Counter             | DI                        | Pulse Counter             |
|         | Bottom Low | A<br>(phase +2) | Vn<br>(phase +2) | Vv<br>(phase +2) | Vv               |                  |                   |                     |                     |                     | On time                   | Pulse Counter             | On time                   | Pulse Counter             |
| 7       | Top Low    | A               | A                | A                | Vn               | Vv               |                   |                     |                     |                     | -                         | -                         | -                         | -                         |
|         | Middle Low | Vn              | Vv               | A<br>(phase +1)  | Vn<br>(phase +1) | Vv<br>(phase +1) |                   |                     |                     |                     | DI                        | Pulse Counter             | DI                        | Pulse Counter             |
|         | Bottom Low | W               | W                | A<br>(phase +2)  | Vn<br>(phase +2) | Vv<br>(phase +2) |                   |                     |                     |                     | On time                   | Pulse Counter             | On time                   | Pulse Counter             |
| A       | Top Low    | optional        | optional         | optional         | optional         | optional         |                   |                     |                     |                     | -                         | -                         | -                         | -                         |
|         | Middle Low | optional        | optional         | optional         | optional         | optional         |                   |                     |                     |                     | DI                        | Pulse Counter             | DI                        | Pulse Counter             |
|         | Bottom Low | optional        | optional         | optional         | optional         | optional         | Wh                | varh                | varh                | varh                | On time                   | Pulse Counter             | On time                   | Pulse Counter             |
| B       | Top Low    | optional        | optional         | optional         | optional         | optional         |                   |                     |                     |                     | -                         | -                         | -                         | -                         |
|         | Middle Low | optional        | optional         | optional         | optional         | optional         |                   |                     |                     |                     | DI                        | Pulse Counter             | DI                        | Pulse Counter             |
|         | Bottom Low | optional        | optional         | optional         | optional         | optional         | Wh                | varh                | varh                | varh                | On time                   | Pulse Counter             | On time                   | Pulse Counter             |

- 1) '-' is no display.
- 2) '(Phase + ?)' displays next (or one after the next) phase of the upper row.
- 3) 'Vn' displays phase voltage (R-N, S-N, T-N).
- 4) 'Vv' displays phase voltage (R-S, S-T, T-R).
- 5) 'Vn + Vv' displays phase voltage & line voltage (R-N, S-N, T-N, R-N,S-T,T-R).
- 6) 'Wh', 'varh' displays only measuring elements of electric power.
- 7) Press SELECT switch on operating mode to change Display 1 to 13.

\* Specification is subject to change without notice