

# DMG2 5(5)A

## DIGITAL THREE-PHASE WATT-HOUR METER FOR TRANSFORMER COUPLING ON 5A

**DMG2 5(5)A** is a three-phase class 1 digital watt-hour meter and class 1 maximum demand indicator with up to four tariffs for transformer coupling on 5A. Meter is intended for indirect or half-indirect connection in domestic and industrial applications. Meter **DMG2 5(5)A** is placed in polycarbonate case having mains connector with up to three modules: tariff module, switch clock and RCR module, and communication module.

Meter **DMG2 5(5)A** satisfies technical requirements of EPS.

Current and voltage operating ranges are 3x5A (base current 5A), and 3x230/400V, 3x58/100V, 2x100V.

Measured values of active energy and maximum demand indicator in different tariffs, date and time are shown on LCD indicator, cyclically. Besides standard measurement data, meter shows current values of active power, date and time, phase voltages, currents, maximums of power and active powers, meter status (open/close), number, date and time of reset of maximum demand indicators and number of power failures. Display content is changed by list push-button.

Meter **DMG2 5(5)A** is equipped by peripheral devices:

- optical infrared port for programming and reading meter, ripple control receiver and switch clock;
- serial RS232/485 port for programming and reading of meter, ripple control receiver and switch clock with peer to peer or with network connection;
- external inputs for control up to four tariffs;
- LED and wired S0 pulse outputs for energy;
- programmable S0 outputs for power relay control or tariff control or maximum demand indicator control.
- maximum demand indicators of 15-minute mean active power and time interval generator 900s/9s;
- switch clock, ripple control receiver or ripple control receiver with switch clock function for tariff control and for events registration.

Meter **DMG2 5(5)A** can register and record:

- values of all active energy counters and maximum demand indicator registers saved on the first day of month at 00.00h, for 12 months;
- values of counters of power failures by phase and number of reset of maximum demand indicator saved on the first day of month at 00.00h for 12 months;
- 40 days load profile of active power. Users have possibility to read profile for last 24h or for all 40 days.

Upon request, custom time schedules are available.

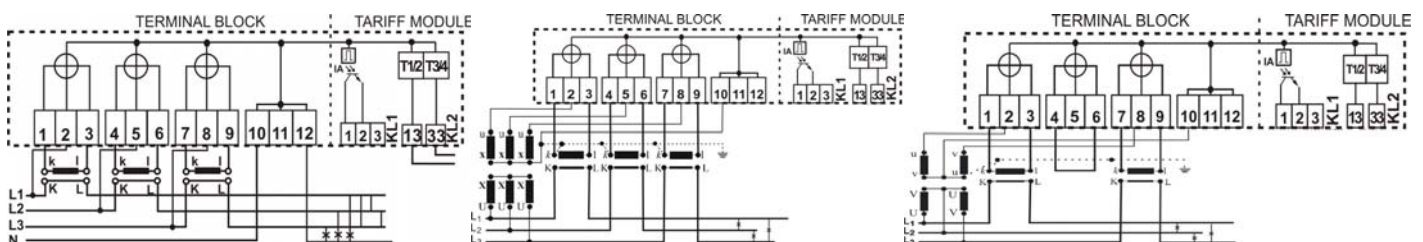
Registered and recorded data can be read on display or by meter communication port by PC software DMGFServis. Hand held unit PSION software DMGFpsi is available also.

Watt-hour meter **DMG2 5(5)A** is a multiprocessor system based on digital processing of input currents and voltages obtained by A/D converters. Power of microcomputers provides application of complex algorithms for tariff, load management, data processing, tests and communications.

Device **DMG2 5(5)A** is realized in VLSI CMOS technology having reliability, low power consumption, operation in wide range of ambient temperatures, low aging and EMI immunity.

Detailed description of device is given in "User guide for DMG2" witch is intended for managers and designers.

### Connection diagram



## Technical characteristics

|                            |  |
|----------------------------|--|
| Type                       | DMG2   |
| Rated voltage $V_n$        | 3x230/400V, 3x58/100V, 2x100V<br>(+15%, -20%)                      |
| Rated frequency $f_n$      | 50 Hz  |
| Base current $I_B$         | 5A   |
| Maximum current $I_M$      | 5A   |
| Constant of meter          | 1000 impulses/kWh or<br>5000 impulses/kWh or<br>10000 impulses/kWh |
| Class of accuracy          | IEC 1036 class 1<br>MUS.F-0/1 class 0.5                            |
| Starting current threshold | < 5mA/phase  |
| Pulse out:                 | optocoupled, S0, IEC 62053-31<br>Class B, 1, 0.2 or 0.1 Wh /pulse  |
| voltage (max)              | 15V  |
| current (max)              | 15mA   |
| duration                   | 30ms   |
| Optical infrared port      | IEC 61107, Mode C  |
| Power consumption:         |  |
| voltage circuit at $V_n$   | < 1W (9VA)/phase   |
| current circuit            | < 0.5VA/phase  |
| AC voltage withstand       | 4kV, 50Hz, 1 minute  |

|                             |                     |
|-----------------------------|---------------------|
| Impulse voltage withstand   | 6kV, 1.2/50 $\mu$ s |
| Operating temperature range | -20°C, +70°C        |
| Ambient relative humidity   | <90%                |
| Case dimensions             | 250.5x170.0x65.3 mm |
| Hole for wire               | 6.5 mm diameter     |
| Weight                      | 1.0 Kg              |

### Function of maximum demand indicator of class 1

|   |                 |
|---|-----------------|
| Class of accuracy                             | IEC 211 class 1 |
| Measurement period for mean power measurement | 15 minute       |
| Reset time                                    | 9s              |

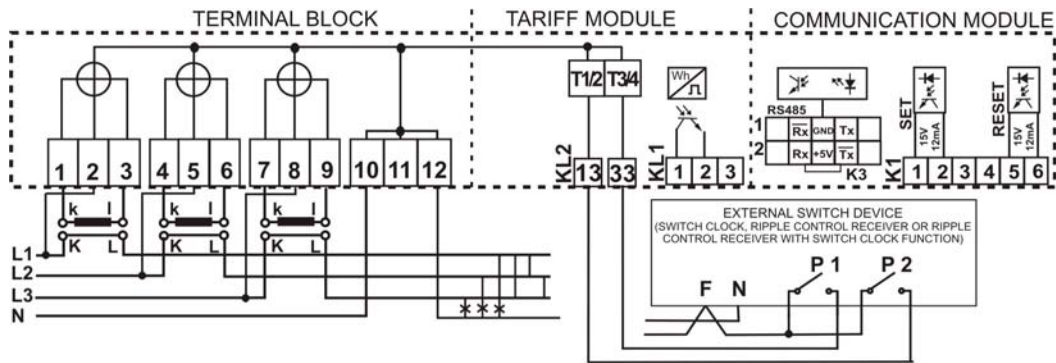
### Function of switch clock

|                           |                      |
|---------------------------|----------------------|
| Real time clock stability | $\pm 1$ minute/month |
| Expected battery life     | > 15 years           |

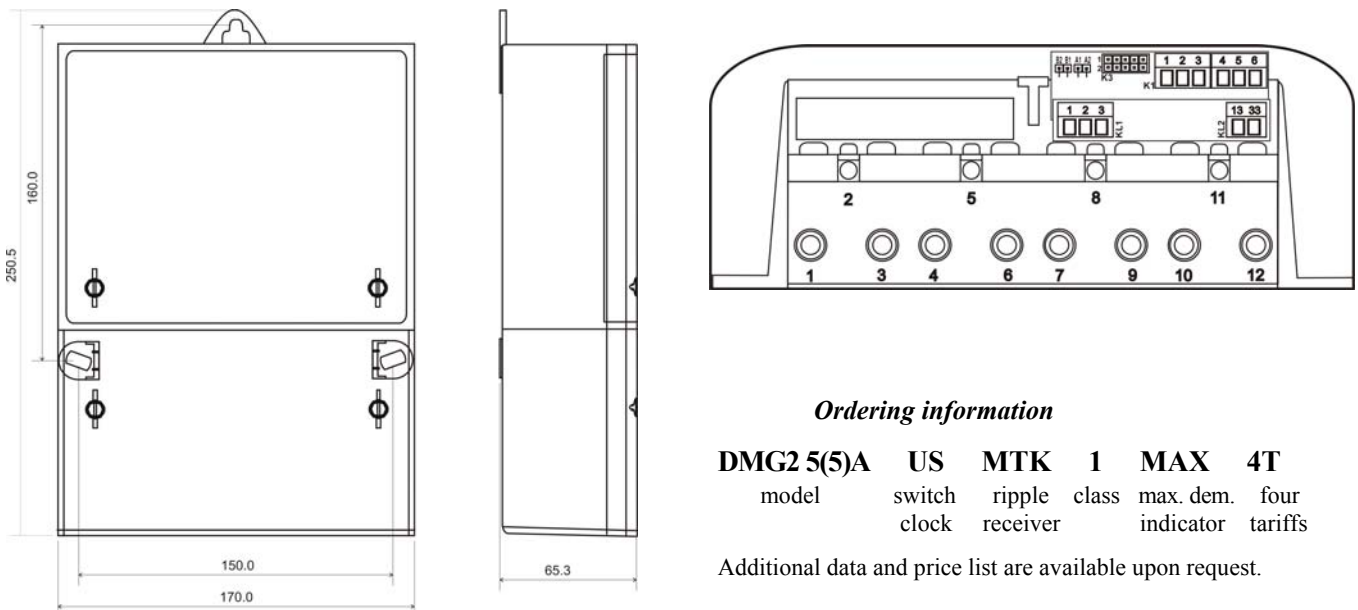
### Function of ripple receiver

|   |                      |
|---|----------------------|
| Mains frequency $f_n$                   | 50-60Hz              |
| Carrier frequency $f_0$                 | on request           |
| Filter Q factor                         | 20                   |
| Threshold voltage $V_{op}$              | $0.1 \div 4.5\% V_n$ |
| Nonoperative threshold voltage $V_{on}$ | $0.1 \div 4.5\% V_n$ |
| Time delays                             | 0s to 99999s         |

## Connection diagram for connection meter with external switch clock or RCR device



## Assembling data



## Ordering information

**DMG2 5(5)A US MTK 1 MAX 4T**  
 model switch ripple class max. dem. four  
 clock receiver indicator tariffs

Additional data and price list are available upon request.

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