

# DMG2 5(5)R

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

**DMG2 5(5)R** is a three-phase class 2 or 3 digital var-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 industrial applications. Meter **DMG2 5(5)R** 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)R** satisfies technical requirements of EPS.

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

Measured values of reactive 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 reactive power, date and time, phase voltages, currents, maximums of power and reactive 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)R** 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 pair to pair 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 reactive 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)R** can register and record:

- values of all reactive 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 reactive power. Users have possibility to read profile for last 24h or for all 40 days.

Upon request, custom time schedules are available.

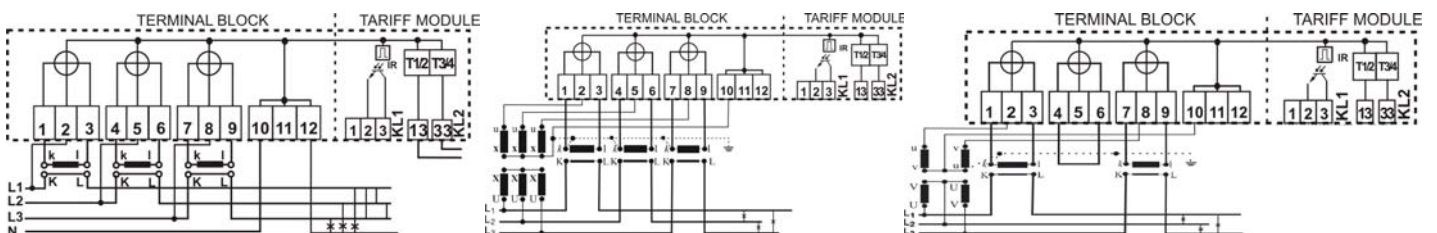
Registered and recorded data can be read on display or by meter communication port by PC software DMGFServis. Hand held unit PSION software DMGFPSi is available also.

Var-hour meter **DMG2 5(5)R** 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)R** 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" which is intended for managers and designers.

### Connection diagram

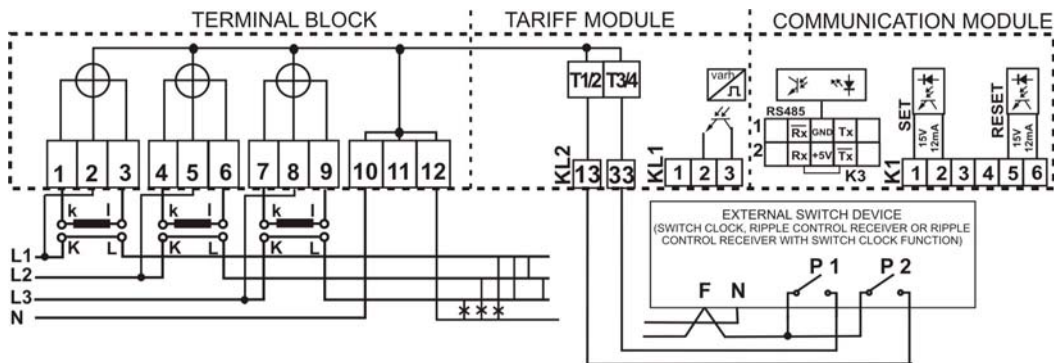


### Technical characteristics

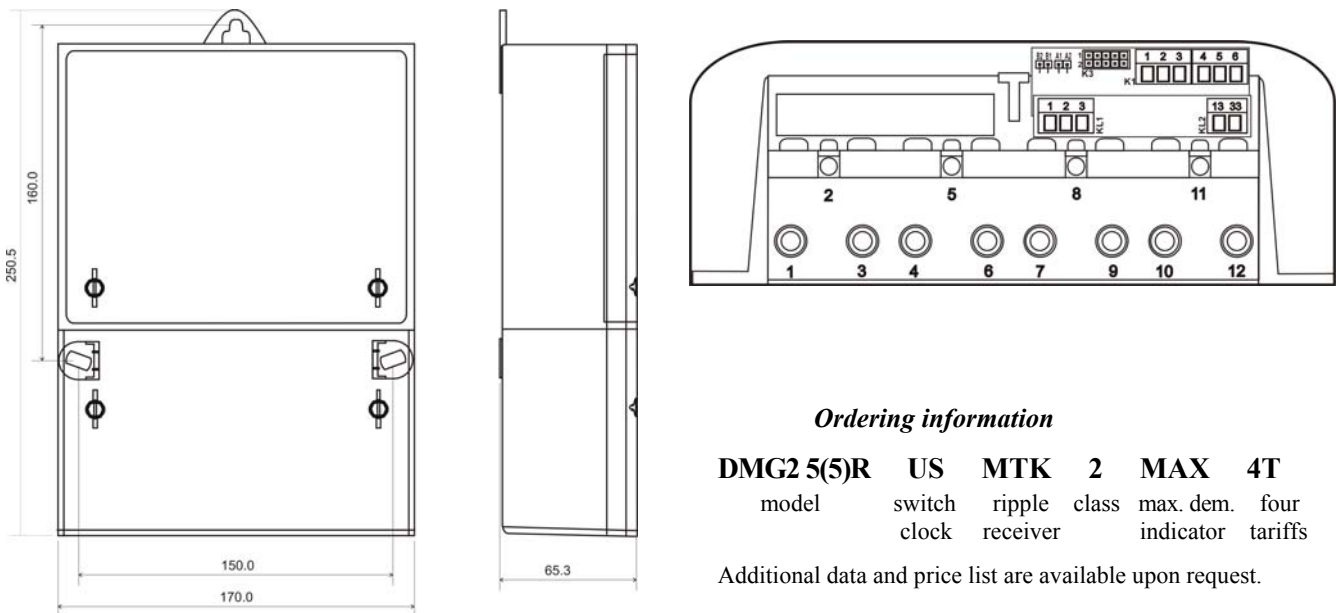
Type	DMG2
Rated voltage $V_n$	3x230/400V, 3x58/100V, 2x100V (+15%, -20%)
Rated frequency $f_n$	50 Hz
Base current $I_B$	5A
Maximum current $I_M$	5A
Constant of meter	1000 impulses/kvarh or 5000 impulses/kvarh or 10000 impulses/kvarh
Class of accuracy	IEC 1268 class 2 or 3
Error limits:	
$0.05I_B \div I_M \cos\varphi=1$	$\pm 2\%, \pm 3\%$
$0.2I_B \div I_M \cos\varphi=0.5$	$\pm 2\%, \pm 3\%$
Starting current threshold	< 5mA/phase
Pulse out:	optocoupled, S0, IEC 62053-31 Class B, 1, 0.2 or 0.1 varh /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	250x170x65 mm
Hole for wire	6.5 mm diameter
Weight	1.0 Kg
<b>Function of switch clock</b>	
Real time clock stability	$\pm 1$ minute/month
Expected battery life	> 15 years
<b>Function of ripple receiver</b>	
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

<b>DMG2 5(5)R</b>	<b>US</b>	<b>MTK</b>	<b>2</b>	<b>MAX</b>	<b>4T</b>
model	switch	ripple	class	max. dem.	four
	clock	receiver		indicator	tariffs

Additional data and price list are available upon request.

“ENEL” d.o.o. Beograd, Petrovaradinska 26, 11000 Beograd  
 Phone: ++381 11 285 0 582, Fax: ++381 11 285 0 580  
 e-mail: enel@EUnet.yu, http://www.enel.co.yu