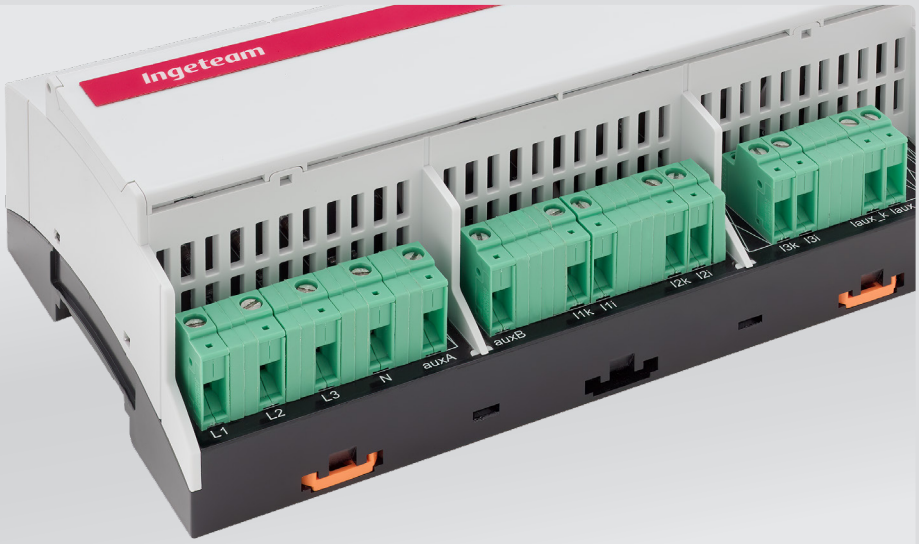
# INGESYS GMD

## Grid Measurement Device


INGESYS™ GMD is a solution for energy metering, which integrates the network measurements into the automation solution, allowing correlation with the operating data. The meter processes the measurements to provide the calculated values to the system with cycle time synchronisation.

The system integrates the measurement of 4 voltages and 4 currents, and the fourth channel can be configured as an isolated system for use in synchronisation between networks, thanks to the measures of phase shift between channels.

## Energy measurement solution

**Main characteristics**

- Measurements: 4 voltages (690Vac); 4 currents (5A)
- Integrated measurements: rms, frequency, power, harmonics...
- High frequency resolution: 1mHz
- Communication with Ethernet-based system: INGESYS ETSX
- DIN rail mounting

### Benefits

- ✓ Integration of network measurements in the system
- ✓ High measurement update speed
- ✓ Integration into existing communication networks

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# Technical Data

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| | |
|---|---|
| | **Measurements** |
| | Single-phase |
| | Split-phase (two-phase system) |
| | 3-wire, balanced load |
| | 3-wire, unbalanced load |
| | 3-wire, unbalanced load, Aron connection |
| | 4-wire, balanced load |
| | 4-wire, unbalanced load |
| | 4-wire, unbalanced load, Open-Y |
| | Comparative signals from generator and network, for synchronisation and machine coupling |
| | **Technical Characteristics** |
| | **Current inputs** |
| **Rated current** | 1A ... 5A, selectable by SW |
| **Maximum current** | 7.5A (sinusoidal) |
| **Consumption** | ≤ I2 x 0.01Ω per phase |
| **Overload** | 10A continuous<br>100A, 10 x 1s at intervals of 100s |
| | **Voltage inputs** |
| **Rated voltage** | 57.7$V_{LN}$ ... 400$V_{LN}$, 100$V_{LL}$ ... 693$V_{LL}$, SW selectable |
| **Maximum voltage** | 480$V_{LN}$, 832$V_{LL}$ (sinusoidal) |
| **Consumption** | ≤ $U^2$ / 3MΩ per phase |
| **Impedance** | 3MΩ per phase |
| **Overload** | 480$V_{LN}$, 832$V_{LL}$, continuous<br>600$V_{LN}$, 1040$V_{LL}$, 10 x 10s at 10s intervals<br>800$V_{LN}$, 1386$V_{LL}$, 10 x 1s at 10s intervals |
| | **Frequency** |
| **Rated frequency** | 50Hz, 60Hz |
| **Frequency ranges** | 45Hz ... 55Hz, 55Hz ... 65Hz |
| **TRMS measurement** | Up to harmonic 40 |
| | **Accuracy** |
| **Conditions** | 15ºC ... 30ºC |
| **Voltage, Current** | ±0.1% |
| **Frequency** | ±(0.001Hz) |
| **Temperature drift** | 0.5x of the measurement error per 10ºC |
| **Long-term drift** | 0.5x of the measurement error per year |
| | **Power supply** |
| **Voltage** | 24Vdc, [+25%, -25%] |
| | **Communication** |
| **Type** | Ethernet 100baseT |
| **Connector** | RJ45 |
| | **Environmental conditions** |
| **Operating temperature** | -40ºC to +70ºC test temperature<br>-10ºC to 55ºC recommended temperature for long term use |
| **Storage temperature** | -40ºC to 70ºC |



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