

# Product data sheet

Specifications



Motor Management, TeSys T, motor controller, Modbus, 6 logic inputs, 3 logic outputs, 5 to 100A, 100 to 240 VAC

LTMR100MFM

## Main

|                             |  |
|-----------------------------|--|
| Range                       | TeSys  |
| Product name                | TeSys T  |
| Device short name           | LTMR   |
| Product or component type   | Motor controller   |
| Device application          | Equipment monitoring and control   |
| Measurement current         | 5...100 A  |
| [Us] rated supply voltage   | 100...240 V AC 50/60 Hz  |
| Current consumption         | 8...62.8 mA  |
| Supply voltage limits       | 93.5...264 V AC  |
| Communication port protocol | Modbus   |
| Bus type                    | Modbus 2-wire RS 485 interface, addressing 1...247, transmission rate 1.2...19.2 kbit/s, RJ45 with 2 shielded twisted pairs<br>Modbus 2-wire RS 485 interface, addressing 1...247, transmission rate 1.2...19.2 kbit/s, terminal block with 2 shielded twisted pairs |

## Complementary

|  |  |
|--|--|
| [Ui] rated insulation voltage          | 690 V conforming to EN/IEC 60947-1<br>690 V conforming to CSA C22.2 No 14<br>690 V conforming to UL 508  |
| [Uimp] rated impulse withstand voltage | 4 kV supply, inputs and outputs conforming to EN/IEC 60947-4-1<br>6 kV current or voltage measurement circuit conforming to EN/IEC 60947-4-1<br>0.8 kV communication circuit conforming to EN/IEC 60947-4-1  |
| Short-circuit withstand                | 100 kA conforming to EN/IEC 60947-4-1  |
| Associated fuse rating                 | 4 A gG for output<br>0.5 A gG for control circuit  |
| Protection type                        | Load fluctuation<br>Earth-leakage protection<br>Overload (long time)<br>Overload<br>Locked rotor<br>Thermal protection<br>Thermal overload protection<br>Power factor variation<br>Reverse polarity protection<br>Phase failure<br>Phase unbalance |
| Network and machine diagnosis type     | Motor control command recording<br>Starting current and time<br>Trip history information<br>Phase fault and earth fault trip counters<br>Running hours counter/operating time<br>Remaining operating time before overload tripping                 |

Fault recording  
 Trip context information  
 Event recording  
 Waiting time after overload tripping

|   |   |
|---|---|
| <b>Logic input number</b>                 | 6   |
| <b>Input current</b>                      | 3.1 mA at 100 V<br>7.5 mA at 240 V  |
| <b>Current state 0 guaranteed</b>         | Logic input: 0...40 V and ≤ 15 mA for 25 ms   |
| <b>Current state 1 guaranteed</b>         | Logic input: 79...264 V and ≥ 2 mA for 25 ms  |
| <b>Maximum output switching frequency</b> | 2 Hz  |
| <b>Load current</b>                       | 5 A at 250 V AC for logic output<br>5 A at 30 V DC for logic output   |
| <b>Permissible power</b>                  | 480 VA (AC-15), I <sub>e</sub> = 2 A, 500000 cycles (output)<br>30 W (DC-13), I <sub>e</sub> = 1.25 A, 500000 cycles (output)   |
| <b>Maximum operating rate</b>             | 1800 cyc/h  |
| <b>Contacts type and composition</b>      | 1 NO + 1 NC fault signal<br>3 NO  |
| <b>Metering type</b>                      | Temperature<br>Earth-fault current<br>Average current I <sub>avg</sub><br>Imbalance current<br>Phase current I1, I2, I3 RMS   |
| <b>Measurement accuracy</b>               | 5...15 % earth fault current internal measurement<br>1 % voltage (100...830 V)<br>3 % power factor<br>5 % earth fault current external measurement<br>+/- 30 min/year internal clock<br>0,02 temperature<br>5 % active and reactive power<br>0,02 current   |
| <b>Overvoltage category</b>               | III   |
| <b>Connection pitch</b>                   | 5.08 mm   |
| <b>Connections - terminals</b>            | Control circuit: connector 1 cable(s) 0.25...2.5 mm <sup>2</sup> (AWG 24...AWG 14) flexible with cable end<br>Control circuit: connector 1 cable(s) 0.2...2.5 mm <sup>2</sup> (AWG 24...AWG 14) flexible without cable end<br>Control circuit: connector 1 cable(s) 0.25...2.5 mm <sup>2</sup> (AWG 24...AWG 14) flexible without cable end<br>Control circuit: connector 1 cable(s) 0.2...2.5 mm <sup>2</sup> (AWG 24...AWG 14) solid without cable end<br>Control circuit: connector 2 cable(s) 0.2...1 mm <sup>2</sup> (AWG 24...AWG 14) flexible with cable end<br>Control circuit: connector 2 cable(s) 0.2...1.5 mm <sup>2</sup> (AWG 24...AWG 14) flexible without cable end<br>Control circuit: connector 2 cable(s) 0.5...1.5 mm <sup>2</sup> (AWG 24...AWG 14) flexible without cable end<br>Control circuit: connector 2 cable(s) 0.2...1 mm <sup>2</sup> (AWG 24...AWG 14) solid without cable end  |
| <b>Tightening torque</b>                  | Control circuit: 0.5...0.6 N.m flat screwdriver 3 mm  |
| <b>Pollution degree</b>                   | 3   |
| <b>Electromagnetic compatibility</b>      | Electrostatic discharge, 3, 8 kV air, 6 kV contact, conforming to EN/IEC 61000-4-2<br>Radiated RF fields, 3, 10 V/m, conforming to EN/IEC 61000-4-3<br>Fast transients immunity test (other circuits), level 3, 2 kV, conforming to EN/IEC 61000-4-4<br>Fast transients immunity test (on supply and relay outputs), level 4, 4 kV, conforming to EN/IEC 61000-4-4<br>Voltage dips and interruptions immunity test, 70 %, 500 ms, conforming to EN/IEC 61000-4-11<br>Conducted RF disturbances, 10 V, conforming to EN/IEC 61000-4-6<br>Temperature sensor: surges (serial mode), 0.5 kV, conforming to EN/IEC 61000-4-5<br>Temperature sensor: surges (common mode), 1 kV, conforming to EN/IEC 61000-4-5<br>Control circuit: surges (serial mode), 1 kV, conforming to EN/IEC 61000-4-5<br>Communication: surges (common mode), 2 kV, conforming to EN/IEC 61000-4-5<br>Relay outputs and supply: surges (serial mode), 2 kV, conforming to EN/IEC 61000-4-5<br>Relay outputs and supply: surges (common mode), 4 kV, conforming to EN/IEC 61000-4-5<br>Control circuit: surges (common mode), 2 kV, conforming to EN/IEC 61000-4-5 |
| <b>Width</b>                              | 91 mm   |
| <b>Height</b>                             | 61 mm   |
| <b>Depth</b>                              | 122.5 mm  |
| <b>Net weight</b>                         | 0.53 kg   |
| <b>Web services</b>                       | Web server  |
| <b>Compatibility code</b>                 | LTMR  |

## Environment

|  |   |
|--|---|
| <b>Standards</b>                             | IACS E10<br>IEC 60947-4-1<br>UL 508<br>EN 60947-4-1<br>CSA C22.2 No 14  |
| <b>Product certifications</b>                | LROS (Lloyds register of shipping)<br>UL<br>ABS<br>ATEX<br>EAC<br>CCC<br>BV<br>RINA<br>DNV<br>C-Tick<br>RMRoS<br>CSA<br>GL<br>NOM<br>KERI   |
| <b>Protective treatment</b>                  | 12 x 24 hour cycles conforming to EN/IEC 60068-2-30<br>48 h conforming to EN/IEC 60070-2-11<br>TH conforming to EN/IEC 60068  |
| <b>Fire resistance</b>                       | 650 °C conforming to EN/IEC 60695-2-12<br>960 °C conforming to UL 94  |
| <b>Ambient air temperature for operation</b> | -20...60 °C   |
| <b>Ambient air temperature for storage</b>   | -40...80 °C   |
| <b>Operating altitude</b>                    | <= 2000 m without derating  |
| <b>Mechanical robustness</b>                 | Vibrations mounted on symmetrical rail: 1 Gn, 5...300 Hz conforming to EN/IEC 60068-2-6<br>Vibrations plate mounted: 4 Gn, 5...300 Hz conforming to EN/IEC 60068-2-6<br>Shocks half sine wave acceleration: 15 Gn for 11 ms conforming to EN/IEC 60068-2-27 |
| <b>IP degree of protection</b>               | IP20  |

## Packing Units

|                                     |          |
|-------------------------------------|----------|
| <b>Unit Type of Package 1</b>       | PCE      |
| <b>Number of Units in Package 1</b> | 1        |
| <b>Package 1 Weight</b>             | 536 g    |
| <b>Package 1 Height</b>             | 7.2 cm   |
| <b>Package 1 width</b>              | 10 cm    |
| <b>Package 1 Length</b>             | 13.6 cm  |
| <b>Unit Type of Package 2</b>       | S02      |
| <b>Number of Units in Package 2</b> | 10       |
| <b>Package 2 Weight</b>             | 5.586 kg |
| <b>Package 2 Height</b>             | 15 cm    |
| <b>Package 2 width</b>              | 30 cm    |
| <b>Package 2 Length</b>             | 40 cm    |

## Offer Sustainability

|                                   |  |
|-----------------------------------|--|
| <b>Sustainable offer status</b>   | Green Premium product                            |
| <b>REACH Regulation</b>           | <a href="#">REACH Declaration</a>                |
| <b>EU RoHS Directive</b>          | Compliant<br><a href="#">EU RoHS Declaration</a> |
| <b>Mercury free</b>               | Yes  |
| <b>RoHS exemption information</b> | <a href="#">Yes</a>                              |

|                                    |   |
|------------------------------------|---|
| <b>China RoHS Regulation</b>       | <a href="#">China RoHS declaration</a><br>Product out of China RoHS scope. Substance declaration for your information       |
| <b>Environmental Disclosure</b>    | <a href="#">Product Environmental Profile</a>   |
| <b>Circularity Profile</b>         | <a href="#">End of Life Information</a>   |
| <b>WEEE</b>                        | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |
| <b>PVC free</b>                    | Yes   |
| <b>Halogen content performance</b> | Halogen free plastic parts product  |

### **Contractual warranty**

|                 |           |
|-----------------|-----------|
| <b>Warranty</b> | 18 months |
|-----------------|-----------|