

# LTMR100CFM

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



## Main

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| 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 | CANopen                                                                                                                                                                                                                                                                   |
| Bus type                    | CANopen ISO 1198 interface, addressing 1...127, transmission rate 10...1000 kbit/s, SUB-D 9 with 4 twisted shielded pairs cable<br>CANopen ISO 1198 interface, addressing 1...127, transmission rate 10...1000 kbit/s, terminal block with 4 twisted shielded pairs cable |

## Complementary

|                                        |                                                                                                                                                                                                                                                                                                                                              |
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| [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                        | Thermal protection<br>Locked rotor<br>Phase failure<br>Earth-leakage protection<br>Overload (long time)<br>Power factor variation<br>Phase unbalance<br>Load fluctuation<br>Thermal overload protection<br>Reverse polarity protection<br>Overload                                                                                           |
| Network and machine diagnosis type     | Event recording<br>Trip history information<br>Starting current and time<br>Running hours counter/operating time<br>Motor control command recording<br>Remaining operating time before overload tripping<br>Fault recording<br>Phase fault and earth fault trip counters<br>Waiting time after overload tripping<br>Trip context information |
| Logic input number                     | 6                                                                                                                                                                                                                                                                                                                                            |
| Input current                          | 3.1 mA at 100 V<br>7.5 mA at 240 V                                                                                                                                                                                                                                                                                                           |
| Current state 0 guaranteed             | Logic input: 0...40 V and ≤ 15 mA for 25 ms                                                                                                                                                                                                                                                                                                  |

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|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Current state 1 guaranteed         | Logic input: 79...264 V and $\geq 2$ mA for 25 ms                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Maximum output switching frequency | 2 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Load current                       | 5 A at 250 V AC for logic output<br>5 A at 30 V DC for logic output                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Permissible power                  | 480 VA (AC-15), $I_e = 2$ A, 500000 cycles (output)<br>30 W (DC-13), $I_e = 1.25$ A, 500000 cycles (output)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Maximum operating rate             | 1800 cyc/h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Contacts type and composition      | 1 NO + 1 NC fault signal<br>3 NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Metering type                      | Earth-fault current<br>Phase current I1, I2, I3 RMS<br>Imbalance current<br>Temperature<br>Average current Iavg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Measurement accuracy               | 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Overvoltage category               | III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Connection pitch                   | 5.08 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Connections - terminals            | 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                                                                                                                                                                                                                        |
| Tightening torque                  | Control circuit: 0.5...0.6 N.m flat screwdriver 3 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Pollution degree                   | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Electromagnetic compatibility      | 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 |
| Width                              | 91 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Height                             | 61 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Depth                              | 122.5 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Net weight                         | 0.53 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Web services                       | Web server                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Compatibility code                 | LTMR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## Environment

|                                       |                                                                                                                                                                                                                                                             |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards                             | IEC 60947-4-1<br>CSA C22.2 No 14<br>IACS E10<br>EN 60947-4-1<br>UL 508                                                                                                                                                                                      |
| Product certifications                | LROS (Lloyds register of shipping)<br>DNV<br>UL<br>EAC<br>GL<br>CCC<br>BV<br>ABS<br>KERI<br>ATEX<br>NOM<br>RINA<br>RMRoS<br>C-Tick<br>CSA                                                                                                                   |
| Protective treatment                  | 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                                                                                                                                |
| Fire resistance                       | 650 °C conforming to EN/IEC 60695-2-12<br>960 °C conforming to UL 94                                                                                                                                                                                        |
| Ambient air temperature for operation | -20...60 °C                                                                                                                                                                                                                                                 |
| Ambient air temperature for storage   | -40...80 °C                                                                                                                                                                                                                                                 |
| Operating altitude                    | <= 2000 m without derating                                                                                                                                                                                                                                  |
| Mechanical robustness                 | 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 |
| IP degree of protection               | IP20                                                                                                                                                                                                                                                        |

## Packing Units

|                              |          |
|------------------------------|----------|
| Unit Type of Package 1       | PCE      |
| Number of Units in Package 1 | 1        |
| Package 1 Weight             | 534 g    |
| Package 1 Height             | 7 cm     |
| Package 1 width              | 10 cm    |
| Package 1 Length             | 13.5 cm  |
| Unit Type of Package 2       | S02      |
| Number of Units in Package 2 | 10       |
| Package 2 Weight             | 5.685 kg |
| Package 2 Height             | 15 cm    |
| Package 2 width              | 30 cm    |
| Package 2 Length             | 40 cm    |

## Offer Sustainability

|                            |                                                                                                                                   |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                                             |
| REACH Regulation           |  <a href="#">REACH Declaration</a>             |
| EU RoHS Directive          | Compliant  <a href="#">EU RoHS Declaration</a> |
| Mercury free               | Yes                                                                                                                               |
| RoHS exemption information |  <a href="#">Yes</a>                           |
| China RoHS Regulation      |  <a href="#">China RoHS Declaration</a>        |
| Environmental Disclosure   |  <a href="#">Product Environmental Profile</a> |
| Circularity Profile        |  <a href="#">End Of Life Information</a>       |

|                             |                                                                                                                             |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| WEEE                        | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |
| PVC free                    | Yes                                                                                                                         |
| Halogen content performance | Halogen free plastic parts product                                                                                          |

### Contractual warranty

|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|