# Product data sheet
## Characteristics

# LV848498
MicroLogic 2.0X control unit, MasterPact MTZ2/MTZ3, drawout circuit breakers, LI protections



## Main

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|---|---|
| Range | MasterPacT |
| Device short name | MicroLogic 2.0 X |
| Product or component type | Control unit |
| Device application | Equipment protection, monitoring and control |
| Circuit breaker application | Distribution IEC standard |
| Range compatibility | MasterPact MTZ2 circuit breaker<br>MasterPact MTZ3 circuit breaker |
| Poles description | 3P<br>4P |
| Protected poles description | 3P 3d<br>4P 3d<br>4P 3d + N/2<br>4P 4d<br>4P 3d + OSN |
| [Ue] rated operational voltage | 690 V AC, +/- 10 % |
| Network type | AC |
| Network frequency | 50/60 Hz |
| Trip unit technology | Electronic |
| Trip unit protection functions | LI |
| Protection type | Overload protection (long time) conforming to ANSI 49<br>Instantaneous short-circuit protection conforming to ANSI 50 |
| Trip unit rating | 400 A<br>630 A<br>800 A<br>1000 A<br>1250 A<br>1600 A<br>2000 A<br>2500 A<br>3200 A<br>4000 A<br>5000 A<br>6300 A |

## Complementary

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|---|---|
| Mounting mode | Drawout |
| Neutral protection setting | 1 x Ir (4P 4d)<br>0.5 x Ir (4P 3d + N/2)<br>1.6 x Ir (4P 3d + OSN)<br>No protection (4P 3d) |
| Long time pick-up adjustment range | 0.4...1 x In adjustable in step of 1 A |
| Long time delay adjustment type | Adjustable in step of 0.5 s |
| [tr] long-time delay adjustment range | 12.5…600 S at 1.5 x Ir<br>0.5…24 S at 6 x Ir<br>0.7…16.6 S at 7.2 x Ir |
| Thermal memory | Yes |
| Instantaneous pick-up adjustment type Ii | Adjustable |
| Instantaneous pick-up adjustment range | 1.5...10 x Ir adjustable in step of 0.5 x Ir with embedded HMI<br>1.5...10 x Ir adjustable in step of 0.1 x Ir with Ecoreach software or MasterPact MTZ mobile app |
| Operating time | 20 ms in standard |
| Zone selective interlocking ZSI | Without |
| Network and machine diagnosis type | System (HMI) health state overview: circuit breaker health state<br>Contacts state: circuit breaker health state<br>MicroLogic service life: circuit breaker health state<br>Tripping cause indication: circuit breaker tripping cause<br>Identification card: diagnostic data<br>Configured alarms synthesis: diagnostic data<br>Monitored function: diagnostic data<br>Operation: diagnostic data<br>MicroLogic test: test<br>Protection test: test<br>Selectivity test: test<br>Trip context information: crisis management<br>Operation: advanced diagnostic<br>Breaker service life: circuit breaker health state |
| Type of measurement | Power meter |
| Energy management | Measurement ,active, reactive and apparent energy<br>Measurement ,electrical network<br>Measurement ,energy |
| Metering type | Current I1, I2, I3, Iavg RMS<br>Neutral current IN RMS<br>Ground fault current Ig RMS<br>Voltage V12, V23, V31, VLLavg RMS<br>Voltage V1N, V2N, V3N, VLNavg RMS<br>Active power P, P1, P2, P3 total<br>Reactive power Q, Q1, Q2, Q3 total<br>Apparent power S, S1, S2, S3 total<br>Power factor<br>Active energy Ep IN/OUT/tot<br>Reactive energy Eq IN/OUT/tot<br>Apparent energy Es IN/OUT/tot<br>Demand current I1, I2, I3, In, Iavg<br>Demand power P, Q, S<br>Frequency<br>Phase sequence<br>Earth leakage current<br>Total current harmonic distortion THD (I)<br>Total voltage harmonic distortion THD (V)<br>Unbalance current<br>Unbalance voltage |
| Measurement voltage | 208…828 V AC 50/60 Hz phase to phase<br>120…480 V AC 50/60 Hz phase to neutral |
| Frequency measurement range | 40…70 Hz |

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|---|---|
| Measurement accuracy | Current I1, I2, I3, Iavg, Idemand for MTZ1: +/- 0.5 % 40...1600 x 1.2 A<br>Current I1, I2, I3, Iavg, Idemand for MTZ2: +/- 0.5 % 40...4000 x 1.2 A<br>Current I1, I2, I3, Iavg, Idemand for MTZ3: +/- 0.5 % 80...6300 x 1.2 A<br>Neutral current IN: +/- 1 %<br>Ground fault current Ig: +/- 5 %<br>Voltage V12, V23, V31, VLLavg: +/- 0.5 % 208...690 x 1.2 V<br>Voltage V1N, V2N, V3N, VLNavg: +/- 0.5 % 120...400 x 1.2 V<br>Active power P, P1, P2, P3, Pdemand: +/- 1 %<br>Reactive power Q, Q1, Q2, Q3, Qdemand: +/- 2 %<br>Apparent power S, S1, S2, S3, Sdemand: +/- 1 %<br>Power factor: +/- 2 %<br>Active energy Ep IN/OUT/tot: +/- 1 %<br>Reactive energy Ep IN/OUT/tot: +/- 2 %<br>Apparent energy Es IN/OUT/tot: +/- 1 %<br>Frequency: +/- 0.005 Hz<br>Earth leakage current: +/- 10 %<br>Unbalance current: +/- 0.5 % |
| Accuracy class | Class 5: total current harmonic distortion THD (I)<br>Class 0.5: unbalance voltage<br>Class 1: active and reactive energy by pulse counting (+/- W.h, +/- VAR.h)<br>Class 2: total voltage harmonic distortion THD (V) |
| Display type | LCD display - 128 x 96 pixels |
| Communication port protocol | Bluetooth 4.0 LE peer to peer 30 kbit/s<br>NFC peer to peer 28800 bauds conforming to ISO 15963<br>USB peer to peer 115 kbauds |
| Data recording | Min/Max of instantaneous values<br>Alarm logs<br>Maintenance logs<br>Event logs<br>Time stamping<br>Data logs |

## Environment

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|---|---|
| Standards | EN/IEC 60947-1<br>EN/IEC 60092-202<br>EN/IEC 60255-1<br>EN/IEC 60947-2<br>EN/IEC 61010-1 |
| Mounting location | Indoor use only |
| Environmental characteristic | Wet location not approved for use conforming to IEC 61010-1 |
| Electromagnetic compatibility | Electrostatic discharge immunity test conforming to IEC 61000-4-2<br>Susceptibility to electromagnetic fields conforming to IEC 61000-4-3<br>Electrical fast transient/burst immunity test conforming to IEC 61000-4-4<br>1.2/50 µs shock waves immunity test conforming to IEC 61000-4-5<br>Conducted RF disturbances conforming to IEC 61000-4-6<br>Conducted and radiated emissions A conforming to CISPR 22 |
| Overvoltage category | IV conforming to IEC 61010-1 |
| Measurement category | Category IV conforming to IEC 61010-2-30 |
| Pollution degree | 3 conforming to IEC 60947-1 |
| Ambient air temperature for operation | -25…70 °C (operating)<br>-35 °C (for start-up of product) |
| Relative humidity | 95 % at 55 °C conforming to IEC 60068-2-30 |
| Operating altitude | <= 2000 m without derating<br><= 4000 m with operational voltage derating 600 V AC<br><= 5000 m with operational voltage derating 560 V AC |

## Packing Units

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|---|---|
| Unit Type of Package 1 | PCE |
| Number of Units in Package 1 | 1 |
| Package 1 Height | 6.8 Cm |
| Package 1 Width | 8.0 Cm |
| Package 1 Length | 21.5 Cm |
| Package 1 Weight | 366.0 G |

## Offer Sustainability

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|---|---|
| Recyclability potential, in % | 4 |
| Total lifecycle Carbon footprint | 51 kg CO2 eq. |
| Carbon footprint of the manufacturing phase [A1 to A3] | 29.3322855799758 |
| Carbon footprint of the manufacturing phase [A1 to A3] | 29 kg CO2 eq. |
| Carbon footprint of the distribution phase [A4] | 0.04035780485952502 |
| Carbon footprint of the distribution phase [A4] | 0 kg CO2 eq. |
| Carbon footprint of the installation phase [A5] | 0.0539491872699603 |
| Carbon footprint of the installation phase [A5] | 0.1 kg CO2 eq. |
| Carbon footprint of the use phase [B2, B3, B4, B6] | 20.37930829321257 |
| Carbon footprint of the use phase [B2, B3, B4, B6] | 20 kg CO2 eq. |
| Mercury free | Yes |
| Sustainable packaging | Yes |
| Carbon footprint of the end-of-life phase [C1 to C4] | 0.8210899091215862 |
| Carbon footprint of the end-of-life phase [C1 to C4] | 0.8 kg CO2 eq. |
| Environmental Disclosure | Product Environmental Profile |
| Total lifecycle Carbon footprint | 51 |
| Packaging made with recycled cardboard | Yes |
| Packaging without single use plastic | Yes |
| SCIP Number | Fe0e6f4e-df3c-4360-9977-32248ec09b55 |
| REACh Regulation | Reference contains Substances of Very High Concern above the threshold |
| EU RoHS Directive | Compliant By Exemption |
| California proposition 65 | WARNING: This product can expose you to chemicals including: Lead and lead compounds, which |
| Halogen-free status | Product contains halogen above thresholds |
| PVC free | Yes |
| Silicone-free | No |
| End of life manual availability | End Of Life Information |
| Removable battery | User replaceable |
| Take-back | No |
| WEEE Label | The product must be disposed on European Union markets following specific waste collection and |

## Contractual warranty

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|---|---|
| Warranty (in months) | 18 |

Product Life Status : Commercialised