

# Product datasheet

Specifications



## Micrologic 5.0 X control unit - for fixed Masterpact MTZ

LV847283

### Main

|                                |                                                                                                                                                                                    |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range                          | MasterPacT                                                                                                                                                                         |
| Device short name              | MicroLogic 5.0 X                                                                                                                                                                   |
| Product or component type      | Control unit                                                                                                                                                                       |
| Device application             | Equipment protection, monitoring and control                                                                                                                                       |
| Circuit breaker application    | Distribution IEC standard                                                                                                                                                          |
| Range compatibility            | MasterPact MTZ1 circuit breaker<br>MasterPact MTZ2 circuit breaker<br>MasterPact MTZ3 circuit breaker                                                                              |
| Poles                          | 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 | LSI                                                                                                                                                                                |
| Protection type                | Overload protection (long time) conforming to ANSI 49<br>Instantaneous short-circuit protection conforming to ANSI 50<br>Short time short-circuit protection conforming to ANSI 51 |
| 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

|                                         |                                                                                             |
|-----------------------------------------|---------------------------------------------------------------------------------------------|
| Mounting mode                           | Fixed                                                                                       |
| 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) |
| [Ir] long time pick-up adjustment range | 0.4...1 x In adjustable in step of 1 A                                                      |

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

|                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| [Isd] short-time 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Short-time delay adjustment type               | Adjustable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| [tsd] short-time delay adjustment range        | 0.1...0.4 s I <sup>2</sup> t=on<br>0...0.4 s I <sup>2</sup> t=off                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Instantaneous pick-up adjustment type li       | Adjustable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| [Ii] instantaneous pick-up adjustment range    | 2...15 x In adjustable in step of 0.5 x In with embedded HMI<br>2...15 x In adjustable in step of 0.1 x In with Ecoreach software or MasterPact MTZ mobile app<br>li enable on/off                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| [li mode] instantaneous delay adjustment range | 0 ms in fast<br>20 ms in standard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Zone selective interlocking ZSI                | With                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 conforming to ISO 15963<br>USB peer to peer 115 kbauds                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Data recording              | Data logs<br>Time stamping<br>Alarm logs<br>Min/max of instantaneous values<br>Event logs<br>Maintenance logs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

## Environment

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards                             | EN/IEC 60947-1<br>EN/IEC 60092-202<br>EN/IEC 60947-2<br>EN/IEC 60255-1<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

|                              |        |
|------------------------------|--------|
| Unit Type of Package 1       | PCE    |
| Number of Units in Package 1 | 1      |
| Package 1 Height             | 6.7 cm |

|                  |         |
|------------------|---------|
| Package 1 Width  | 7.9 cm  |
| Package 1 Length | 21.6 cm |
| Package 1 Weight | 347.0 g |

## Logistical informations

|                   |    |
|-------------------|----|
| Country of origin | FR |
|-------------------|----|

## Contractual warranty

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



## Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

[Environmental Data explained >](#)

[How we assess product sustainability >](#)



### Environmental footprint

|                                                        |                                               |
|--------------------------------------------------------|-----------------------------------------------|
| Total lifecycle Carbon footprint                       | 51 kg CO2 eq.                                 |
| Environmental Disclosure                               | <a href="#">Product Environmental Profile</a> |
| Carbon footprint of the manufacturing phase [A1 to A3] | 29 kg CO2 eq.                                 |
| Carbon footprint of the distribution phase [A4]        | 0 kg CO2 eq.                                  |
| Carbon footprint of the installation phase [A5]        | 0.1 kg CO2 eq.                                |
| Carbon footprint of the use phase [B2, B3, B4, B6]     | 20 kg CO2 eq.                                 |
| Carbon footprint of the end-of-life phase [C1 to C4]   | 0.8 kg CO2 eq.                                |

## Use Better



### Materials and Substances

|                                        |                                                                                        |
|----------------------------------------|----------------------------------------------------------------------------------------|
| Packaging made with recycled cardboard | Yes                                                                                    |
| Packaging without single use plastic   | Yes                                                                                    |
| SCIP Number                            | Fe0e6f4e-df3c-4360-9977-32248ec09b55                                                   |
| EU RoHS Directive                      | <a href="#">Compliant By Exemption</a>                                                 |
| REACH Regulation                       | <a href="#">Reference contains Substances of Very High Concern above the threshold</a> |
| Halogen-free status                    | Product contains halogen above thresholds                                              |
| PVC free                               | Yes                                                                                    |
| Silicone-free                          | No                                                                                     |

## Use Longer



### Lifetime extension

|        |    |
|--------|----|
| Repair | No |
|--------|----|

## Use Again



### Repack and remanufacture

|                                 |                                         |
|---------------------------------|-----------------------------------------|
| Recyclability potential, in %   | 4                                       |
| End of life manual availability | <a href="#">End of Life Information</a> |
| Removable battery               | User replaceable                        |
| Take-back                       | Yes                                     |



The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins