



### Main

Range	Masterpact
Device short name	Micrologic 6.0 X
Product or component type	Control unit
Device application	Equipment protection, monitoring and control
Range compatibility	Masterpact MTZ1 circuit breaker Masterpact MTZ2 circuit breaker Masterpact MTZ3 circuit breaker
Poles	3P 4P
Protected poles	3P 3d 4P 3d 4P 4d 4P 3d + OSN 4P 3d + N/2
Circuit breaker application	Distribution IEC standard
Network type	AC
Trip unit name	Micrologic 6.0 X
Trip unit technology	Electronic
Trip unit protection functions	LSIG
Protection type	Overload protection (long time) conforming to ANSI 49 Instantaneous short-circuit protection conforming to ANSI 50 Short time short-circuit protection conforming to ANSI 51 Earth fault protection conforming to ANSI 51N
Trip unit rating	1000 A 5000 A 2500 A 3200 A 630 A 1250 A 400 A 4000 A 800 A 6300 A 1600 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

## Complementary

Network frequency	50/60 Hz
Mounting mode	Fixed
[Ir] long time pick-up adjustment range	0.4...1 x I <sub>n</sub> adjustable in step of 1 A
[Tr] long-time delay adjustment range	12.5...600 s at 1.5 x I <sub>r</sub> 0.5...24 s at 6 x I <sub>r</sub> 0.7...16.6 s at 7.2 x I <sub>r</sub>
Long time delay adjustment type	Adjustable in step of 0.5 s
[I <sub>sd</sub> ] short-time pick-up adjustment range	1.5...10 x I <sub>r</sub> adjustable in step of 0.5 x I <sub>r</sub> with embedded HMI 1.5...10 x I <sub>r</sub> adjustable in step of 0.1 x I <sub>r</sub> with Ecoeach software or Masterpact MTZ mobile app
[T <sub>sd</sub> ] short-time delay adjustment range	0.1...0.4 s I <sup>2</sup> t=on 0...0.4 s I <sup>2</sup> t=off
Short-time delay adjustment type	Adjustable
[I <sub>i</sub> ] instantaneous pick-up adjustment range	2...15 x I <sub>n</sub> adjustable in step of 0.5 x I <sub>n</sub> with embedded HMI 2...15 x I <sub>n</sub> adjustable in step of 0.1 x I <sub>n</sub> with Ecoeach software or Masterpact MTZ mobile app I <sub>i</sub> enable on/off
[L <sub>i</sub> mode] instantaneous delay adjustment range	0 ms in fast 20 ms in standard
Instantaneous pick-up adjustment type I <sub>i</sub>	Adjustable
[I <sub>g</sub> ] ground-fault pick-up adjustment range	conforming to IEC with I <sub>n</sub> > 400 A 0.2...1 x I <sub>n</sub> adjustable in step of 10 A conforming to IEC with I <sub>n</sub> ≤ 400 A 0.3...1 x I <sub>n</sub> adjustable in step of 10 A I <sub>g</sub> enable on/off
[T <sub>g</sub> ] ground-fault time delay adjustment range	0.1...0.4 s I <sup>2</sup> t=on 0...0.4 s I <sup>2</sup> t=off
Ground-fault time delay adjustment type	Adjustable
Zone selective interlocking ZSI	With
Type of measurement	Power meter
Thermal memory	Yes
Energy management	Measurement active, reactive and apparent energy standard) Measurement electrical network standard) Measurement energy standard)
Metering type	Current I <sub>1</sub> , I <sub>2</sub> , I <sub>3</sub> , I <sub>n</sub> , I <sub>g</sub> : maximum standard) Average voltage V <sub>avg</sub> standard) Active power P, P <sub>1</sub> , P <sub>2</sub> , P <sub>3</sub> standard) Reactive power Q, Q <sub>1</sub> , Q <sub>2</sub> , Q <sub>3</sub> standard) Apparent power S, S <sub>1</sub> , S <sub>2</sub> , S <sub>3</sub> standard) Power factor standard) Frequency standard) Total current harmonic distortion THD (I): inst, avg, avg min, avg max fundamental voltage standard) Total current harmonic distortion THD (I): inst, avg, avg min, avg max RMS voltage standard) Voltage V <sub>21</sub> , V <sub>32</sub> , V <sub>13</sub> , V <sub>1</sub> , V <sub>2</sub> , V <sub>3</sub> : instantaneous standard) Voltage V <sub>21</sub> , V <sub>32</sub> , V <sub>13</sub> , V <sub>1</sub> , V <sub>2</sub> , V <sub>3</sub> : minimum standard) Voltage V <sub>21</sub> , V <sub>32</sub> , V <sub>13</sub> , V <sub>1</sub> , V <sub>2</sub> , V <sub>3</sub> : maximum standard) Total voltage harmonic distortion THD (V): inst, avg, avg min, avg max fundamental voltage standard) Total voltage harmonic distortion THD (V): inst, avg, avg min, avg max RMS voltage standard) Demand current I <sub>1</sub> , I <sub>2</sub> , I <sub>3</sub> , I <sub>n</sub> , I <sub>avg</sub> standard) Demand power P, Q, S standard)
Network and machine diagnosis type	System (HMI) health state overview: circuit breaker health state standard) Contacts state: circuit breaker health state standard) Micrologic service life: circuit breaker health state standard) Tripping cause indication: circuit breaker tripping cause standard) Identification card: diagnostic data standard) Configured alarms synthesis: diagnostic data standard) Monitored function: diagnostic data standard) Operation: diagnostic data standard) Micrologic test: test standard) Protection test: test standard) Selectivity test: test standard) Trip context information: crisis management standard) Operation: advanced diagnostic standard) Breaker service life: circuit breaker health state standard)

Measurement voltage	145.6...828 V AC 50/60 Hz per phase
Frequency measurement range	45...250 Hz
Measurement accuracy	Power factor: +/- 1 % Active energy Ep IN/OUT/tot: +/- 1 % - 10...10 GWh Reactive energy Ep IN/OUT/tot: +/- 2 % - 10...10 GVARh Apparent energy Es IN/OUT/tot: +/- 1 % - 10...10 GVAh Unbalance current: +/- 0.5 % Frequency: +/- 0.005 Hz Voltage V21, V32, V13, VLLavg: +/- 0.5 % 208...690 x 1.2 V Voltage V21, V32, V13, VLNavg: +/- 0.5 % 120...400 x 1.2 V Apparent power S, S1, S2, S3, Sdemand: +/- 1 % Active power P, P1, P2, P3, Pdemand: +/- 1 % Reactive power Q, Q1, Q2, Q3, Qdemand: +/- 2 % Current I1, I2, I3, Iavg, Idemand for MTZ1: +/- 0.5 % 40...1600 x 1.2 A Current I1, I2, I3, Iavg, Idemand for MTZ2: +/- 0.5 % 40...4000 x 1.2 A Current I1, I2, I3, Iavg, Idemand for MTZ3: +/- 0.5 % 80...6300 x 1.2 A
Accuracy class	Class 5: total current harmonic distortion THD (I) Class 0.5: unbalance voltage Class 1: active and reactive energy by pulse counting (+/- W.h, +/- VAR.h) 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 NFC peer to peer conforming to ISO 15963 USB peer to peer 115 kbauds
Data recording	Maintenance logs Data logs Min/max of instantaneous values Alarm logs Event logs Time stamping
Electromagnetic compatibility	Electrostatic discharge immunity test conforming to IEC 61000-4-2 Susceptibility to electromagnetic fields conforming to IEC 61000-4-3 Electrical fast transient/burst immunity test conforming to IEC 61000-4-4 1.2/50 µs shock waves immunity test conforming to IEC 61000-4-5 Conducted RF disturbances conforming to IEC 61000-4-6 Conducted and radiated emissions A conforming to CISPR 22

## Environment

Standards	IEC 60092-202 EN/IEC 60255-1 EN/IEC 60947-2 EN/IEC 60947-1
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## 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> Product out of China RoHS scope. Substance declaration for your information
Environmental Disclosure	<a href="#">Product Environmental Profile</a>
Circularity Profile	<a href="#">End of Life Information</a>