



### 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
Poles	4P 3P
Protected poles	4P 3d + OSN 3P 3d 4P 3d + N/2 4P 3d 4P 4d
[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 (long time) conforming to ANSI 49 Instantaneous short-circuit protection conforming to ANSI 50 Short time short-circuit protection conforming to ANSI 51
Trip unit rating	1000 A 2500 A 400 A 4000 A 800 A 5000 A 1600 A 2000 A 3200 A 630 A 1250 A 6300 A

### Complementary

Mounting mode	Drawout
[Ir] 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 0.5...24 S at 6 x Ir 0.7...16.6 s at 7.2 x Ir
Thermal memory	Yes
[I <sub>sd</sub> ] short-time pick-up adjustment range	1.5...10 x Ir adjustable in step of 0.5 x Ir with embedded HMI 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
[I <sub>tsd</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
Instantaneous pick-up adjustment type li	Adjustable

[li] instantaneous pick-up adjustment range	2...15 x In adjustable in step of 0.5 x In with embedded HMI 2...15 x In adjustable in step of 0.1 x In with Ecoreach software or Masterpact MTZ mobile app li enable on/off
[li mode] instantaneous delay adjustment range	0 ms in fast 20 ms in standard
Zone selective interlocking ZSI	With
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)
Type of measurement	Power meter
Energy management	Measurement ,active, reactive and apparent energy (standard) Measurement ,electrical network (standard) Measurement ,energy (standard)
Metering type	Current I1, I2, I3, In, Ig: maximum standard) Average voltage Vavg standard) Active power P, P1, P2, P3 standard) Reactive power Q, Q1, Q2, Q3 standard) Apparent power S, S1, S2, S3 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 V21, V32, V13, V1, V2, V3: instantaneous standard) Voltage V21, V32, V13, V1, V2, V3: minimum standard) Voltage V21, V32, V13, V1, V2, V3: 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 I1, I2, I3, In, Iavg standard) Demand power P, Q, S 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	Min/Max of instantaneous values Maintenance logs Data logs Time stamping Alarm logs Event logs

## Environment

Standards	EN/IEC 60947-1 EN/IEC 60255-1 EN/IEC 60947-2 EN/IEC 60092-202 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 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
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) -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 <= 4000 m with operational voltage derating 600 V AC <= 5000 m with operational voltage derating 560 V AC

## 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>
PVC free	Yes
Halogen content performance	Halogen free plastic parts product
California proposition 65	WARNING: This product can expose you to chemicals including: DINP, which is known to the State of California to cause cancer, and DIDP, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>

## Contractual warranty

Warranty	18 months
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