



### Teknisk informasjon

|                              |                                                                                                                                                                         |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Serie                        | Masterpact                                                                                                                                                              |
| Kortnavn utstyr              | Micrologic 5.0 X                                                                                                                                                        |
| Produkt eller type komponent | Vern                                                                                                                                                                    |
| Applikasjon                  | Equipment protection, monitoring and control                                                                                                                            |
| Effektbryter applikasjon     | Distribution IEC standard                                                                                                                                               |
| Kompatibel med               | Masterpact MTZ1 circuit breaker                                                                                                                                         |
| Poles                        | 4P<br>3P                                                                                                                                                                |
| Protected poles              | 4P 3d + OSN<br>3P 3d<br>4P 3d + N/2<br>4P 3d<br>4P 4d                                                                                                                   |
| [Ue] merkespenning           | 690 V AC, +/- 10 %                                                                                                                                                      |
| Type nettverk                | AC                                                                                                                                                                      |
| Nettverksfrekvens            | 50/60 Hz                                                                                                                                                                |
| Vernteknologi                | Elektronisk                                                                                                                                                             |
| Vernfunksjoner               | LSI                                                                                                                                                                     |
| Beskyttelsestype             | Overload (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 område                  | 1000 A<br>2500 A<br>400 A<br>4000 A<br>800 A<br>5000 A<br>1600 A<br>2000 A<br>3200 A<br>630 A<br>1250 A<br>6300 A                                                       |

### Komplementær

|                                                           |                                                                                                                                                                                                                    |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Monteringsmetode                                          | Uttrekkbar                                                                                                                                                                                                         |
| [Ir] long time pick-up adjustment range                   | 0.4...1 x I <sub>n</sub> adjustable in step of 1 A                                                                                                                                                                 |
| Overlast/lang-tid tidsforsinkelsesjustering type          | Adjustable in step of 0.5 s                                                                                                                                                                                        |
| [tr] long-time delay adjustment range                     | 12.5...600 S at 1.5 x I <sub>r</sub><br>0.5...24 S at 6 x I <sub>r</sub><br>0.7...16.6 s at 7.2 x I <sub>r</sub>                                                                                                   |
| Termisk minne                                             | Yes                                                                                                                                                                                                                |
| [Isd]kort-tids/kortslutnings inntillingsområde            | 1.5...10 x I <sub>r</sub> adjustable in step of 0.5 x I <sub>r</sub> with embedded HMI<br>1.5...10 x I <sub>r</sub> adjustable in step of 0.1 x I <sub>r</sub> with Ecoreach software or Masterpact MTZ mobile app |
| Kort-tids/kortslutnings tidsinntillingstype               | Justerbar                                                                                                                                                                                                          |
| [tsd] innstillingsområde for tidsforsinkelse kortslutning | 0.1...0.4 S I <sup>2</sup> t=on<br>0...0.4 s I <sup>2</sup> t=off                                                                                                                                                  |
| Momentan innstilling type li                              | Justerbar                                                                                                                                                                                                          |

|                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [li] 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<br>2...15 x I <sub>n</sub> adjustable in step of 0.1 x I <sub>n</sub> 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 selektiv forrigling (logisk selektivitet) ZSI | Med                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Nettverk og maskin diagnose typen                  | System (HMI) health state overview: circuit breaker health state standard)<br>Contacts state: circuit breaker health state standard)<br>Micrologic service life: circuit breaker health state standard)<br>Tripping cause indication: circuit breaker tripping cause standard)<br>Identification card: diagnostic data standard)<br>Configured alarms synthesis: diagnostic data standard)<br>Monitored function: diagnostic data standard)<br>Operation: diagnostic data standard)<br>Micrologic test: test standard)<br>Protection test: test standard)<br>Selectivity test: test standard)<br>Trip context information: crisis management standard)<br>Operation: advanced diagnostic standard)<br>Breaker service life: circuit breaker health state standard)                                                                                                                                                                                                                                           |
| Type måling                                        | Effektmåler                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Energiledelse                                      | Measurement ,active, reactive and apparent energy (standard)<br>Measurement ,electrical network (standard)<br>Measurement ,energy (standard)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Måletypen                                          | Current I1, I2, I3, I <sub>n</sub> , I <sub>g</sub> : maximum standard)<br>Average voltage V <sub>avg</sub> standard)<br>Active power P, P1, P2, P3 standard)<br>Reactive power Q, Q1, Q2, Q3 standard)<br>Apparent power S, S1, S2, S3 standard)<br>Power factor standard)<br>Frequency standard)<br>Total current harmonic distortion THD (I): inst, avg, avg min, avg max fundamental voltage standard)<br>Total current harmonic distortion THD (I): inst, avg, avg min, avg max RMS voltage standard)<br>Voltage V21, V32, V13, V1, V2, V3: instantaneous standard)<br>Voltage V21, V32, V13, V1, V2, V3: minimum standard)<br>Voltage V21, V32, V13, V1, V2, V3: maximum standard)<br>Total voltage harmonic distortion THD (V): inst, avg, avg min, avg max fundamental voltage standard)<br>Total voltage harmonic distortion THD (V): inst, avg, avg min, avg max RMS voltage standard)<br>Demand current I1, I2, I3, I <sub>n</sub> , I <sub>avg</sub> standard)<br>Demand power P, Q, S standard) |
| Målespenning                                       | 145.6...828 V AC 50/60 Hz per phase                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Frequency measurement range                        | 45...250 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Målenøyaktighet                                    | Power factor: +/- 1 %<br>Active energy E <sub>p</sub> IN/OUT/tot: +/- 1 % - 10...10 GWh<br>Reactive energy E <sub>p</sub> IN/OUT/tot: +/- 2 % - 10...10 GVARh<br>Apparent energy E <sub>s</sub> IN/OUT/tot: +/- 1 % - 10...10 GVAh<br>Unbalance current: +/- 0.5 %<br>Frequency: +/- 0.005 Hz<br>Voltage V21, V32, V13, VLLavg: +/- 0.5 % 208...690 x 1.2 V<br>Voltage V21, V32, V13, VLNavg: +/- 0.5 % 120...400 x 1.2 V<br>Apparent power S, S1, S2, S3, Sdemand: +/- 1 %<br>Active power P, P1, P2, P3, Pdemand: +/- 1 %<br>Reactive power Q, Q1, Q2, Q3, Qdemand: +/- 2 %<br>Current I1, I2, I3, I <sub>avg</sub> , Idemand for MTZ1: +/- 0.5 % 40...1600 x 1.2 A<br>Current I1, I2, I3, I <sub>avg</sub> , Idemand for MTZ2: +/- 0.5 % 40...4000 x 1.2 A<br>Current I1, I2, I3, I <sub>avg</sub> , Idemand for MTZ3: +/- 0.5 % 80...6300 x 1.2 A                                                                                                                                                        |
| Nøyaktighets klasse                                | 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)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Displaytype                                        | LCD display - 128 x 96 pixels                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Kommunikasjonsport protokoll                       | 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Dataregistrering                                   | Min / maks av øyeblikkelig verdier<br>Vedlikeholdslogger<br>Data logs<br>Time stamping<br>Alarmlogg<br>Event logs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## Miljø

|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standarder                      | EN/IEC 60947-1<br>EN/IEC 60255-1<br>EN/IEC 60947-2<br>EN/IEC 60092-202<br>EN/IEC 61010-1                                                                                                                                                                                                                                                                                                                        |
| Montasjeplassering              | Indoor use only                                                                                                                                                                                                                                                                                                                                                                                                 |
| Miljødata                       | Wet location not approved for use conforming to IEC 61010-1                                                                                                                                                                                                                                                                                                                                                     |
| Elektromagnetisk kompatibilitet | 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 |
| Overspenningskategori           | IV conforming to IEC 61010-1                                                                                                                                                                                                                                                                                                                                                                                    |
| Måling kategori                 | Category IV conforming to IEC 61010-2-30                                                                                                                                                                                                                                                                                                                                                                        |
| Forurensninggrad                | 3 conforming to IEC 60947-1                                                                                                                                                                                                                                                                                                                                                                                     |
| Omgivelsestemperatur for drift  | -25...70 °C (operating)<br>-35 °C (for start-up of product)                                                                                                                                                                                                                                                                                                                                                     |
| Relativ fuktighet               | 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

|                     |          |
|---------------------|----------|
| Forpakning 1 vekt   | 0,321 kg |
| Forpakning 1 høyde  | 0,670 dm |
| Forpakning 1 bredde | 0,790 dm |
| Forpakning 1 lengde | 2,160 dm |

## Offer Sustainability

|                            |                                              |
|----------------------------|----------------------------------------------|
| Produktets miljøstatus     | Green Premium miljømerket produkt            |
| EU RoHS-direktiv           | I samsvar <a href="#">EU RoHS-erklæring</a>  |
| Kvikksølvfri               | Ja                                           |
| Informasjon om RoHS-unntak | <a href="#">Ja</a>                           |
| Kinas RoHS-forskrift       | <a href="#">Kinas RoHS-Erklæring</a>         |
| Miljøinformasjon           | <a href="#">Produktmiljøprofil</a>           |
| Produktets livssyklus      | <a href="#">Informasjon Om Levetidsslutt</a> |
| PVC-fri                    | Ja                                           |
| Halogeninnhold             | Halogenfrie plastdeler i produkt             |

## Garantiperiode

|         |           |
|---------|-----------|
| Garanti | 18 months |
|---------|-----------|