



### Teknisk informasjon

|                              |                                                                                                                   |
|------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Serie                        | Masterpact                                                                                                        |
| Kortnavn utstyr              | Micrologic 2.0 X                                                                                                  |
| Produkt eller type komponent | Vern                                                                                                              |
| Applikasjon                  | Equipment protection, monitoring and control                                                                      |
| Effektbryter applikasjon     | Distribution IEC standard                                                                                         |
| Kompatibel med               | Masterpact MTZ1 circuit breaker<br>Masterpact MTZ2 circuit breaker<br>Masterpact MTZ3 circuit breaker             |
| Produktnummer                | LV848498<br>LV847280<br>LV847281                                                                                  |
| Antall poler                 | 4P<br>3P                                                                                                          |
| Polbeskrivelse               | 4P 3d<br>3P 3d<br>4P 4d<br>4P 3d + OSN<br>4P 3d + N/2                                                             |
| [Ue] merkespenning           | 690 V AC, +/- 10 %                                                                                                |
| Type nettverk                | AC                                                                                                                |
| Nettverksfrekvens            | 50/60 Hz                                                                                                          |
| Vernteknologi                | Elektronisk                                                                                                       |
| Vernfunksjoner               | LI                                                                                                                |
| Beskyttelsestype             | Instantaneous short-circuit protection conforming to ANSI 50<br>Overload (long time) conforming to ANSI 49        |
| Trip område                  | 6300 A<br>1600 A<br>1000 A<br>2500 A<br>1250 A<br>5000 A<br>800 A<br>400 A<br>3200 A<br>630 A<br>2000 A<br>4000 A |

### Komplementær

|                                                    |                                                                                                                                                                    |
|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Overlast/lang-tid justerings område                | 0.4...1 x In adjustable in step of 1 A                                                                                                                             |
| Overlast/lang-tid tidsforsinkelsesjustering type   | Adjustable in step of 0.5 s                                                                                                                                        |
| [tr] justering av tidsforsinkelse på overlastvern  | 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                                                                                       |
| Termisk minne                                      | Yes                                                                                                                                                                |
| Momentan innstilling type li                       | Justerbar                                                                                                                                                          |
| Innstillingsområde momentanutkobling               | 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 |
| Driftstid                                          | 20 ms in standard                                                                                                                                                  |
| Zone selektiv forrigling (logisk selektivitet) ZSI | Uten                                                                                                                                                               |

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| 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, In, Ig: maximum standard)<br>Average voltage Vavg 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<br>fundamental voltage standard)<br>Total current harmonic distortion THD (I): inst, avg, avg min, avg max RMS<br>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<br>fundamental voltage standard)<br>Total voltage harmonic distortion THD (V): inst, avg, avg min, avg max RMS<br>voltage standard)<br>Demand current I1, I2, I3, In, Iavg standard)<br>Demand power P, Q, S standard) |
| Målespenning                      | 145.6 V AC 50/60 Hz per phase<br>828 V AC 50/60 Hz per phase                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Frequency measurement range       | 40...70 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Målenøyaktighet                   | Power factor: +/- 1 %<br>Active energy Ep IN/OUT/tot: +/- 1 % - 10...10 GWh<br>Reactive energy Ep IN/OUT/tot: +/- 2 % - 10...10 GVARh<br>Apparent energy Es 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, 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                                                                                                                                                                                |
| 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 28800 bauds conforming to ISO 15963<br>USB peer to peer 115 kbauds                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Dataregistrering                  | Data logs<br>Time stamping<br>Event logs<br>Min / maks av øyeblikkelig verdier<br>Vedlikeholdslogger<br>Alarmlogg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Inkludert utstyr                  | 1 instruksjonsveiledning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Produktserie                      | Reservedel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

## Miljø

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

## Offer Sustainability

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|----------------------------|----------------------------------------------|
| 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             |