Product datasheet

Specifications



Circuit breaker, MasterPacT MTZ2 20H1 fixed, 4P, 2000A, 66kA/ 440VAC, MicroLogic 2.0E Active, manually operated

MTZ220_H12E4PMFHH

Main

Range	MasterPacT
Product name	MasterPacT MTZ2 Active
Product or component type	Circuit breaker
Device short name	MTZ2 20 H1
Device application	Power distribution
Poles description	4P
Protected poles description	4P 4d 4P 3d + N/2 4P 3d + OSN 4P 3d
Neutral position	Left
[In] rated current	2000 A at 40 °C
Performance type	H1 66 kA 415 V AC
[Ue] rated operational voltage	690 V AC 50/60 Hz
Suitability for isolation	Yes conforming to EN/IEC 60947-2
Selectivity category	Category B
Control type	Manually operated ON/OFF push-button
Mounting mode	Fixed
Trip unit name	MicroLogic Active 2.0 E
Trip unit technology	Electronic
Trip unit protection functions	LI
Sensor rating	1000 A 1250 A 1600 A 2000 A

Complementary

[Icu] rated ultimate short-circuit breaking capacity	66 kA at 220/415 V AC 50/60 Hz 66 kA at 440 V AC 50/60 Hz 66 kA at 525 V AC 50/60 Hz 66 kA at 690 V AC 50/60 Hz
[Ics] rated service short-circuit breaking capacity	66 kA at 220/415 V AC 50/60 Hz 66 kA at 440 V AC 50/60 Hz 66 kA at 525 V AC 50/60 Hz 66 kA at 690 V AC 50/60 Hz
[Icw] rated short-time withstand current	66 kA 0.5 s 66 kA 1 s 36 kA 3 s

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

[Icm] rated short-circuit making capacity	145 kA at 220/415 V AC 50/60 Hz 145 kA at 440 V AC 50/60 Hz 145 kA at 525 V AC 50/60 Hz 145 kA at 690 V AC 50/60 Hz
[Ui] rated insulation voltage	1000 V AC 50/60 Hz
[Uimp] rated impulse withstand voltage	12 kV
Power dissipation in W	250 W
Power dissipation per pole	62.5 W
Maximum breaking time	25 ms
Maximum closing response time	70 ms
Mounting support	Base plate Rails
Upside connection	Horizontal Rear
Downside connection	Horizontal Rear
Mechanical durability	20000 cycles with maintenance
Electrical durability	8000 cycles 440 V AC 50/60 Hz conforming to EN/IEC 60947-2 6000 cycles 690 V AC 50/60 Hz conforming to EN/IEC 60947-2
Protection type	Overload protection (long time) conforming to ANSI 49 Instantaneous short-circuit protection conforming to ANSI 50
Trip unit rating	250 A 400 A 630 A 800 A 1000 A 1250 A 1600 A 2000 A 2500 A 3200 A 4000 A 5000 A 6300 A
Long-time pick-up adjustment type Ir (thermal protection)	Adjustable
[Ir] long-time protection pick-up adjustment range	0.4...1 x In adjustable in step of 1 A
Long-time protection delay adjustment type tr	Adjustable in step of 0.5 s
[tr] long-time protection delay adjustment range	0.5…30 s at 6 x Ir
Thermal memory	Yes
Neutral protection setting	1 x Ir (4P 4d) 0.5 x Ir (4P 3d + N/2) 1.6 x Ir (4P 3d + OSN) No protection (4P 3d)
Instantaneous protection pick-up adjustment type Ii	Adjustable
[Ii] instantaneous protection pick-up adjustment range	1.5...10 x Ir adjustable in step of 0.1 x Ir
[Ii mode] instantaneous delay adjustment range	20 ms in standard
Earth-leakage protection	Without
Zone selective interlocking ZSI	Without

Network and machine diagnosis type	System (HMI) health state overview: circuit breaker health state Contacts state: circuit breaker health state MicroLogic service life: circuit breaker health state Tripping cause indication: circuit breaker tripping cause Identification card: diagnostic data Configured alarms synthesis: diagnostic data Monitored function: diagnostic data Operation: diagnostic data MicroLogic test: test Protection test: test Selectivity test: test Trip context information: crisis management Operation: advanced diagnostic Breaker service life: circuit breaker health state
Type of measurement	Energy meter Ammeter
Energy management	Measurement ,active, reactive and apparent energy Measurement ,electrical network Measurement ,energy
Metering type	Current I1, I2, I3, Iavg RMS Neutral current IN RMS Ground fault current Ig RMS Voltage V12, V23, V31, VLLavg RMS Voltage V1N, V2N, V3N, VLNavg RMS Active power P, P1, P2, P3 total Active energy Ep IN/OUT/tot Power factor Demand current I1, I2, I3, In, Iavg Frequency Phase sequence Unbalance current
Measurement voltage	208…828 V AC 50/60 Hz phase to phase 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 MTZ2: +/- 1.5 % 40...4000 x 1.2 A Neutral current IN: +/- 1.5 % Voltage V12, V23, V31, VLLavg: +/- 0.5 % 208...690 x 1.2 V Voltage V1N, V2N, V3N, VLNavg: +/- 0.5 % 120...400 x 1.2 V Active power P, P1, P2, P3, Pdemand: +/- 2 % Active energy Ep IN/OUT/tot: +/- 2 % Power factor: +/- 2 % Frequency: +/- 0.005 Hz Unbalance current: +/- 0.5 %
Accuracy class	Class 0.5: unbalance voltage
Display type	LCD display - 320 x 240 pixels
Local signalling	2 LEDs for trip causes 3 LEDs for status indication
Communication port protocol	NFC peer to peer 28800 bauds conforming to ISO 15963 USB peer to peer 115 kbauds
Data recording	Data logs Event logs Alarm logs Time stamping Maintenance logs Min/max of instantaneous values
End user smartphone application	EcoStruxure Power Commission EcoStruxure Power Device
Width (W)	537 mm
Height (H)	352 mm
Depth (D)	300 mm
Net weight	65 kg

Environment

Standards	EN/IEC 60947-1 EN/IEC 60947-2
Product certifications	CE CCC EAC
IP degree of protection	IP3X conforming to EN/IEC 60529
IK degree of protection	IK07 conforming to EN/IEC 62262
Pollution degree	3 conforming to EN/IEC 60664-1
Ambient air temperature for operation	-25…70 °C
Temperature derating table	40 °C (2000 A) 45 °C (2000 A) 50 °C (2000 A) 55 °C (2000 A) 60 °C (1920 A) 65 °C (1850 A) 70 °C (1770 A)
Ambient air temperature for storage	-40…85 °C
Relative humidity	0…95 % conforming to IEC 60068-2-30
Operating altitude	0...2000 m without derating 2000 m...5000 m with derating factor

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	70 cm
Package 1 Width	60 cm
Package 1 Length	80 cm
Package 1 Weight	77 kg

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	**1 872 kg CO2 eq.**
Carbon footprint of the manufacturing phase [A1 to A3]	**363 kg CO2 eq.**
Carbon footprint of the distribution phase [A4]	**8 kg CO2 eq.**
Carbon footprint of the installation phase [A5]	**9 kg CO2 eq.**
Carbon footprint of the use phase [B2, B3, B4, B6]	**1 359 kg CO2 eq.**
Carbon footprint of the end-of-life phase [C1 to C4]	**133 kg CO2 eq.**
Environmental Disclosure	Product Environmental Profile

Use Better

Materials and Packaging

Packaging made with recycled cardboard	**Yes**
Packaging without single use plastic	**No, we have minimized the use of plastic in the packaging in compliance with regulations and considering quality and safety standards**
SCIP Number	**584555c5-79df-4e54-a0be-1388f30e1540**
EU RoHS Directive	Compliant By Exemption
REACh Regulation	Reference contains Substances of Very High Concern above the threshold
Halogen-free status	**Product contains halogen above thresholds**
PVC free	**Yes**
Silicone-free	**No**

Use Again

Repack and remanufacture

Recyclability potential, in %	**92**
End of life manual availability	End of Life Information
Removable battery	**User replaceable**
Take-back	**No**