

79.5

## PIIIM-275/4+0 Vseries

- Surge arresters type T2 ensure the equipotential bonding and reduce switching, induced and residual overvoltage in LV power supply systems.
- The products consist of varistors with big discharge ability.
- Configurations 1+1 and 3+1 are additionally combined with a gas discharge tube which ensures zero leakage current through the PE conductor.
- Installed on the interface of LPZ 1 LPZ 2 into subsidiary switchboards and control boxes.
- **M** indication specifies a type of construction with removable module.
- **DS** indication specifies a version with remote monitoring.
- Other voltage levels can be produced on request.

Test class according to EN 61643-11:2012 (IEC 61643-11:2011)T2SystemImageTh-SNumber of poles44Rated operating AC voltageUx230 VMaximum continuous operating voltage ACUc275 VMaximum discharge current (8/20)Imax50 kANomial discharge current (8/20) L1+L2+L3+N->PEImax200 kAVoltage protection level at ImaxUp<1.3 kVTemporary overvoltage test (TOV) for Tm = 5 sUm100 kAResponse timeImax600 kAmsShort-circuit current rating at maximum back-up fuseImax600 kAmsLightning protection zoneImax100 kAmsLightning protection of the State (State (Stat	Туре		PIIIM-275/4+0 Vseries
Number of poles4Rated operating AC voltageUA230 VMaximum continuous operating voltage ACUC275 VMaximum discharge current (8/20)Imax50 kANominal discharge current (8/20) 1+1.2+1.3+N->PEIrotal200 kAVoltage protection level at InUp<1.3 kV	Test class according to EN 61643-11:2012 (IEC 61643-11:2011)		T2
Rated operating AC voltageUN230 VMaximum continuous operating voltage ACUC275 VMaximum discharge current (8/20)Imax50 kANominal discharge current for class II test (8/20)I,200 kATotal discharge current (8/20) L1+L2+L3+N->PEIrotal200 kAVoltage protection level at I,Up<1.3 kV	System		TN-S
Maximum continuous operating voltage ACUc275 VMaximum discharge current (8/20)Imax50 kANominal discharge current (8/20)In20 kATotal discharge current (8/20) L1L2+L3+N>PEIrotal200 kAVoltage protection level at InUp<1.3 kV	Number of poles		4
Maximum discharge current (8/20)Inax50 kANominal discharge current for class II test (8/20)In20 kATotal discharge current (8/20) L1+L2+L3+N->PEIrotal200 kAVoltage protection level at InUp<1.3 kV	Rated operating AC voltage	U <sub>N</sub>	230 V
make to obtain the close of the clos	Maximum continuous operating voltage AC	U <sub>c</sub>	275 V
Total discharge current (8/20) L1+L2+L3+N->PEI I I I Temporary overvoltage test (TOV) for tr = 5 sI I<	Maximum discharge current (8/20)	I <sub>max</sub>	50 kA
Voltage for the V at $I_n$ Up $P$ < 1.3 kVTemporary overvoltage test (TOV) for $t_T = 5$ sUT335 VResponse time $t_A$ < 25 ns	Nominal discharge current for class II test (8/20)	I <sub>n</sub>	20 kA
Temporary overvoltage test (TOV) for tr = 5 sUT335 VResponse timetA<25 ns	Total discharge current (8/20) L1+L2+L3+N->PE	I <sub>Total</sub>	200 kA
Response time   t_A   < 25 ns     Maximal back-up fuse   160 A gL/gG     Short-circuit current rating at maximum back-up fuse   IsccR   60 kArms     Lightning protection zone   LPZ 1-2, LPZ 2-3     Housing material   Polyamid PA6, UL94 V-0     Degree of protection   9   -40 + 70 °C     Minimum cross-section of connected Cu conductors accord. to HD 60364-5-53:2022   S   2.5 mm² (L, N)     (doesn't apply to ,V" connection) for T2   S   2.5 + 35 mm²     Clamp fastening range (solid conductor)   2.5 + 35 mm²   3     Clamp fastening range (stranded conductor)   4 Nm   4 Nm     Installation   On DIN rail 35 mm   4 TE     Operating position   4 TE   Optic     Importance of local signaling   OK - green target FAULT - red target	Voltage protection level at In	U <sub>p</sub>	< 1.3 kV
Maximal back-up fuse160 A gL/gGShort-circuit current rating at maximum back-up fuseIsccR60 kArmsLightning protection zoneLPZ 1-2, LPZ 2-3Housing materialPolyamid PA6, UL94 V-0Degree of protection9-40 + 70 °COperating temperature9-40 + 70 °CMinimum cross-section of connected Cu conductors accord. to HD 60364-5-53:2022S2.5 mm² (L, N)Clamp fastening range (solid conductor)2.5 ÷ 35 mm²2.5 mm²Clamp fastening range (solid conductor)2.5 ÷ 25 mm²4 NmInstallationMOn DIN rail 35 mmModular width4 TEOpticOperating position4 TEOpticImportance of local signalingOK - green targetFemote signallingNoNo	Temporary overvoltage test (TOV) for $t_T = 5 s$	U <sub>T</sub>	335 V
Short-circuit current rating at maximum back-up fuseIsccr60 kArmsLightning protection zoneIsccr60 kArmsHousing materialPolyamid PA6, UL94 V-0Degree of protection9-40 ÷ 70 °COperating temperature9-40 ÷ 70 °CMinimum cross-section of connected Cu conductors accord. to HD 60364-5-53:2022 (doesn't apply to ,V" connection) for T2S2.5 mm² (L, N) 6 mm² (PE, PEN)Clamp fastening range (solid conductor)2.5 ÷ 35 mm²2.5 ÷ 35 mm²Clamp fastening range (solid conductor)2.5 ÷ 25 mm²4 NmInstallation10 On DIN rail 35 mmModular width4 TE4 TEOperating position4AnySignalling at the deviceOpticImportance of local signalingIsignalingOK - green target FAULT - red targetRemote signalling5No	Response time	t <sub>A</sub>	< 25 ns
Lightning protection zoneLPZ 1-2, LPZ 2-3Housing materialPolyamid PA6, UL94 V-0Degree of protectionIP20Operating temperature\$ -40 ÷ 70 °CMinimum cross-section of connected Cu conductors accord. to HD 60364-5-53:2022 (doesn't apply to "V" connection) for T2SClamp fastening range (solid conductor)2.5 ÷ 35 mm²Clamp fastening range (solid conductor)2.5 ÷ 35 mm²Clamp fastening range (stranded conductor)3Tightening moment4 NmInstallationOn DIN rail 35 mmModular width4 TEOperating positionAnySignalling at the deviceOpticImportance of local signalingOK - green target FAULT - red targetRemote signallingNo	Maximal back-up fuse		160 A gL/gG
Housing materialPolyamid PA6, UL94 V-0Degree of protectionIP20Operating temperature-40 ÷ 70 °CMinimum cross-section of connected Cu conductors accord. to HD 60364-5-53:2022 (doesn't apply to ,V" connection) for T2SClamp fastening range (solid conductor)2.5 ÷ 35 mm²Clamp fastening range (solid conductor)2.5 ÷ 35 mm²Clamp fastening range (stranded conductor)Tightening moment4 NmInstallationModular width4 TEOperating positionAnySignalling at the deviceOpticImportance of local signalingOK - green target FAULT - red targetRemote signallingNo	Short-circuit current rating at maximum back-up fuse	I <sub>SCCR</sub>	60 kA <sub>rms</sub>
Degree of protectionIP20Operating temperature\$-40 ÷ 70 °CMinimum cross-section of connected Cu conductors accord. to HD 60364-5-53:2022 (doesn't apply to ,,V" connection) for T2\$2.5 mm² (L, N) 6 mm² (PE, PEN)Clamp fastening range (solid conductor)<	Lightning protection zone		LPZ 1-2, LPZ 2-3
Operating temperature\$-40 ÷ 70 °CMinimum cross-section of connected Cu conductors accord. to HD 60364-5-53:2022 (doesn't apply to ,,V" connection) for T2S2.5 mm² (L, N) 6 mm² (PE, PEN)Clamp fastening range (solid conductor)2.5 ÷ 35 mm²2Clamp fastening range (stranded conductor)2.5 ÷ 25 mm²Tightening moment4 NmInstallation0n DIN rail 35 mmModular width4 TEOperating position4 TEOperating positionOpticImportance of local signalingOK - green target FAULT - red targetRemote signallingNo	Housing material		Polyamid PA6, UL94 V-0
Minimum cross-section of connected Cu conductors accord. to HD 60364-5-53:2022 (doesn't apply to ,V" connection) for T2S2.5 mm² (L, N) 6 mm² (PE, PEN)Clamp fastening range (solid conductor)2.5 ÷ 35 mm²Clamp fastening range (stranded conductor)2.5 ÷ 25 mm²Clamp fastening range (stranded conductor)4 NmInstallation0n DIN rail 35 mmModular width4 TEOperating positionAnySignalling at the deviceOpticImportance of local signaling0K - green target FAULT - red targetRemote signallingNo	Degree of protection		IP20
(doesn't apply to "V" connection) for T26 mm² (PE, PEN)Clamp fastening range (solid conductor)2.5 ÷ 35 mm²Clamp fastening range (stranded conductor)2.5 ÷ 25 mm²Tightening moment4 NmInstallationOn DIN rail 35 mmModular width4 TEOperating positionAnySignalling at the deviceOpticImportance of local signalingOK - green target FAULT - red targetRemote signallingNo	Operating temperature	θ	-40 ÷ 70 °C
Clamp fastening range (stranded conductor)2.5 ÷ 25 mm²Tightening moment4 NmInstallationOn DIN rail 35 mmModular width4 TEOperating positionAnySignalling at the deviceOpticImportance of local signalingOK - green target FAULT - red targetRemote signallingNo		S	
Tightening moment4 NmInstallationOn DIN rail 35 mmModular width4 TEOperating positionAnySignalling at the deviceOpticImportance of local signalingOK - green target FAULT - red targetRemote signallingNo	Clamp fastening range (solid conductor)		2.5 ÷ 35 mm <sup>2</sup>
InstallationOn DIN rail 35 mmModular width4 TEOperating positionAnySignalling at the deviceOpticImportance of local signalingOK - green target FAULT - red targetRemote signallingNo	Clamp fastening range (stranded conductor)		2.5 ÷ 25 mm <sup>2</sup>
Modular width   4 TE     Operating position   Any     Signalling at the device   Optic     Importance of local signaling   OK - green target FAULT - red target     Remote signalling   No	Tightening moment		4 Nm
Operating position Any   Signalling at the device Optic   Importance of local signaling OK - green target FAULT - red target   Remote signalling No	Installation		On DIN rail 35 mm
Signalling at the deviceOpticImportance of local signalingOK - green target FAULT - red targetRemote signallingNo	Modular width		4 TE
Importance of local signaling OK - green target   FAULT - red target FAULT - red target   Remote signalling No	Operating position		Any
FAULT - red target   Remote signalling   No	Signalling at the device		Optic
	Importance of local signaling		• •
Modular design Yes	Remote signalling		No
	Modular design		Yes



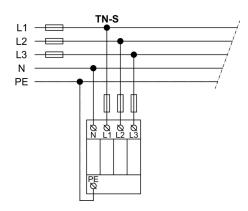
Туре		PIIIM-275/4+0 Vseries
Article number of spare module		27 044
Lifetime		> 100 000 h
Designed according to standards		
Requirements and test methods for SPDs connected to low-voltage power systems		IEC 61643-11:2011
Safety of Flammability of Plastic Materials		UL 94
Application standards		
Protection against lightning		IEC 62305:2010
Selection and erection of electrical equipment – Switchgear and controlgear		HD 60364-5-53:2022
Selection and application principles for SPDs connected to low-voltage power systems		CLC/TS 61643-12:2009
Ordering, packaging and additional data		
Mass	m	360 g
Mass (including the packaging)	m	384 g
Packaging dimensions (H x W x D)		77 x 114 x 88 mm
Packaging value	V	0.77 dm <sup>3</sup>
ETIM group		EG000021
ETIM class		EC000941
Customs tariff no.		85363010
EAN code		8590681270523
Art. number		27 052



**The link in the QR code** leads to the online presentation of the **PIIIM-275/4+0 Vseries**. There, in addition to the always up-to-date data sheet, you will also find all diagrams and drawings, declarations of conformity, or 2D or 3D models and other necessary materials. For more information, visit **www.hakel.com** 



Application wiring diagram (installation)



## Internal diagram

