

Technical data

Insulation coordination acc. to IEC 60664-1

Rated insulation voltage	AC 800 V
Rated impulse voltage/pollution degree	8 kV/3

Voltage ranges

IRDH275...	
Nominal system voltage U_n	AC, 3/(N)AC 0...793 V*
Nominal frequency f_n (for $f < 50$ Hz see characteristic curve in the manual)	0.1...460 Hz
Nominal system voltage U_n	DC 0...650 V*

IRDH275...-435:	
Supply voltage U_s (also see nameplate)	AC 88...264 V*
Frequency range U_s	42...460 Hz
Supply voltage U_s (also see nameplate)	DC 77...286 V*

IRDH275...-427:	
Supply voltage U_s (also see nameplate)	AC 19.2...55 V*
Frequency range U_s	42...460 Hz
Supply voltage U_s (also see nameplate)	DC 19.2...72 V*

IRDH275...	
Power consumption	≤ 14 VA

Response values

Response value R_{m1} (Alarm1)	1 kΩ...10 MΩ
Response value R_{m2} (Alarm2)	1 kΩ...10 MΩ
Relative uncertainty (20 kΩ...1 MΩ) (acc. to IEC 61557-8)	± 15 %
Relative uncertainty (1...20 kΩ +2 kΩ/+20 %)	
Relative uncertainty (1...10 MΩ)	0.2 kΩ/+20 %
Response time t_{90} at $R_s = 0.5 \times R_{m1}$ and $C_e = 1 \mu F$	≤ 5 s
Hysteresis (1...10 kΩ)	+2 kΩ
Hysteresis (10 kΩ...10 MΩ)	25 %

Measuring circuit

Measuring voltage U_m	≤ 50 V
Measuring current I_m (at $R_f = 0 \Omega$)	≤ 280 μA
Internal DC resistance R_i	≥ 180 kΩ
Impedance Z_i at 50 Hz	≥ 180 kΩ
Permissible extraneous DC voltage U_{dg}	≤ DC 1200 V
Permissible system leakage capacitance	≤ 500 μF
Factory setting	150 μF

Displays

Display, illuminated	two-line display
Characteristics (number)	2 x 16
Display range measured value	1 kΩ...10 MΩ
Operating uncertainty (20 kΩ...1 MΩ) (nach IEC 61557-8)	± 15 %**
Operating uncertainty (1...20 kΩ)	± 1 kΩ/± 15 %**
Operating uncertainty (1...10 MΩ)	± 0.1 MΩ/± 15 %**

Outputs/Inputs

Test/reset button	internal/external
Cable length test/reset button, external	≤ 10 m
Current output for measuring instrument SKMP (scale centre point = 120 kΩ):	
Current output IRDH275 (load)	400 μA (≤ 12.5 kΩ)
Current output IRDH275B (load)	20 mA (≤ 500 Ω)
Accuracy current output (1 kΩ...1 MΩ)	
related to the value indicated	±10 %, ±1 kΩ

Serial interface

Interface/protocol IRDH275	RS-485/ASCII-ISOData
Interface/protocol IRDH275B	RS-485/BMS
Connection	terminals A/B
Cable length	≤ 1200 m
Cable (twisted in pairs, one end of shield connected to PE)	recommended: J-Y(S)Y min. 2 x 0.8
Terminating resistor	120 Ω (0.5 W)
Device address, BMS bus	1...30 (factory setting = 3)

Switching elements

Switching elements	2 changeover contacts: K1 (Alarm 1), K2 (Alarm 2, device error)
Operating principle K1, K2 (Alarm 1/Alarm 2)	N/O or N/C operation
Factory setting (Alarm 1/Alarm 2)	N/O operation
Electrical endurance, number of cycles	12000
Contact class	IIB (DIN IEC 60255-23)
Rated contact voltage	AC 250 V/DC 300 V
Making capacity	AC/DC 5 A
Breaking capacity	2 A, AC 230 V, cos phi = 0.4 0.2 A, DC 220 V, L/R = 0.04 s
Contact rating at DC 24 V	≥ 2 mA (50 mW)

Environment/EMC

EMC	acc. to IEC 61326-2-4 Ed. 1.0
Shock resistance IEC 60068-2-27 (device in operation)	15 g/11 ms
Bumping IEC 60068-2-29 (transport)	40 g/6 ms
Vibration resistance IEC 60068-2-6 (device in operation)	1 g/10...150 Hz
Vibration resistance IEC 60068-2-6 (transport)	2 g/10...150 Hz
Ambient temperature (during operation)	-10...+55 °C
Ambient temperature (during storage)	-40...+70 °C
Climatic class acc. to IEC 60721-3-3	3K5

Connection

Connection	screw-type terminals
Connection properties	
rigid/flexible	0.2...4 mm ² /0.2...2.5 mm ²
flexible with ferrules without/with plastic sleeve	0.25...2.5 mm ²
Tightening torque	0.5 Nm
Conductor sizes (AWG)	24...12

Other

Operating mode	continuous operation
Mounting	display-oriented
Distance to adjacent devices	≥ 30 mm
Degree of protection, internal components (DIN EN 60529)	IP30
Degree of protection, terminals (DIN EN 60529)	IP20
Type of enclosure	X112, free from halogen
DIN rail mounting	DIN EN 60715/IEC 60715
Flammability class	UL94 V-0
Documentation number	D00122
Weight	≤ 510 g

Option "W"

Shock resistance IEC 60068-2-27 (device in operation)	30 g/11 ms
Bumping IEC 60068-2-29 (transport)	40 g/6 ms
Vibration resistance IEC 60068-2-6	1.6 mm/10...25 Hz 4 g/25...150 Hz
Ambient temperature (during operation)	-40...+70 °C
Storage temperature range	-40...+85 °C
Screw mounting	2 x M4

The data labelled with an * are absolute values

** = Under EMC test conditions in accordance with IEC 61326-2-4 the specified tolerances can double