

# Product Information

## RTU-Cu8

### Insulation and loop resistance monitoring station with time domain reflectometer for fault location

The *RTU-Cu8* monitoring station surveilles the insulation and loop resistance of copper cables in the LANCIER Monitoring UMS system.

The integrated multiplexer module allows for the monitoring of 8 measuring pairs with only one measuring device.

If the *RTU-Cu8* detects faults on one of the measuring pairs, the optional TDR module is automatically switched on for fault location. In this way, the location of the fault is determined within a very short time and troubleshooting can be initiated immediately.

A free pair in the cable sections that is to be monitored serves as a measuring loop, which is continu-

ously measured by the *RTU-Cu8*. The alarm threshold for insulation and loop resistance are freely programmable via an integrated keypad and the integrated display. All settings are saved in an internal EEPROM memory to prevent losses.

For remote alarming, the *RTU-Cu8* has built-in dry contact outputs. In addition, it can be connected to a remote control system via Modbus.

*The RTU-Cu8 quickly and precisely detects and locates cable breaks caused by construction activities, cable theft or sabotage, for example.*



## Ordering Data

### Monitoring station *RTU-Cu8*

#### Insulation and loop resistance measuring system

equipped with control panel and signal output via dry contacts

Order-no. 076860.000

### Monitoring station *RTU-Cu8 plus*

additionally equipped with **time-domain reflectometer measuring module** for fault location with color touch screen

Order-no. 076861.000

### TDR-Module

for retrofitting with **time domain reflectometer measuring module** for fault location with color touch screen

Order-no. 074714.001

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Insulation and loop resistance monitoring station  
with **time domain reflectometer** for fault location

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### Technical Data

#### RTU-Cu8

Number of Measurement channels	8
Operating temperature	-20 °C .. +65 °C
Admissible ambient humidity	0 .. 95 % rel. humidity, non-condensing
Dimensions (W x H x D)	546 x 416 x 186 mm
<b>Resistance measurement</b>	
<b>Insulation resistance</b>	
Measurement range / Resolution	0 .. 1 M / 0,001 MΩ, fault ± 5 % of measurement ±0,01 MΩ 1 .. 200 MΩ / 0,01 MΩ, fault ± 5 % of measurement ±0,01 MΩ
<b>Loop resistance</b>	
Measurement range / Resolution	0 .. 10 kΩ / 0,001 kΩ, fault ± 5 % of measurement ±0,05 kΩ
Measuring voltage	90 V DC
Signal LEDs	
2 x green / red:	Alarm / Acknowledged alarm / Display operation insulation resp. loop
1 x blue:	display operation
Signal outputs	2 dry change-over contacts for: insulation and loop resistance
Max. switchable voltage / current	100 V DC / 0.1 A DC
<b>Fault location via TDR (optional)</b>	
Measurement range	62.5 .. 64 km
Location fault	0.01 % .. 0.2 % of the measured value (12.5 cm to 8.0 m, depending on the subsections)
Impedance	30 .. 500 Ω, adjustable
Impulse width	10 ns .. 50 μs
V/2	50.0 .. 150.0 m/μs
Impulse amplitude	10 V with matched load
Input sensitivity	1 mV
Dynamic range	80 dB
Signal output	dry change-over contact for: impedance
Max. switchable voltage / current	100 V DC / 0.1 A DC



Measuring unit

TDR with color touch screen!

Multiplexer

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### System diagram

