

RTU7M AI-4UF – Fast Analog Input Card

General Description

Fast measuring card is indirect card (card with internal CPU communicating through the internal serial bus with communication CPU) equipped with A/D converter and powerful signal CPU for processing of measured signals with fast changes. The card is equipped with 2 Ethernet ports, that allow to transfer a huge amount of data directly into communication card without occupation of internal bus.

This card is designed for measuring of fast voltage signals from various sensors. There are four voltage inputs, that are galvanically isolated from the rest of unit, but not between each other. The inputs are fitted with BNC connectors with input impedance 75 Ohms. The measuring range is adjustable in parameterization. Maximal voltage value on input is 1.28 V. Voltage is measured by 8-bit A/D converter with maximal sample rate 40MS/s. The card processes the signal from 10Hz to 20MHz. The upper frequencies are limited by fourth-order filter to 20 MHz.



Card RTU7M AI-4UF/1.28-AI

Typical Applications

- ☑ fault detection on isolated overhead MV lines (contact of isolation with vegetation, subject lying on lines, conductor fallen on the ground),
- ☑ early warning of insulation failure and its transition into the earth fault or short circuit.

Technical Specification

| Card | RTU7M AI-4UF/1.28-AI |
|-------------------------------------|---|
| Inputs | 4 |
| Measured variable | Voltage |
| Maximal measured value | 1.28 V _{peak} |
| Overloadability | 4.3 V AC |
| Inputs type | Isolated 4 kV DC for 1 second from rest of the unit |
| Input impedance | 75 Ω |
| Signal processing | 8-bit A/D converter |
| Measured frequencies | 10 Hz ÷ 20 MHz for 3dB decrease |
| Accuracy | 1% (10kHz, 25 °C) |
| Measuring category | CAT III, 150V |
| Sampling | According to used FW, usually 40 MS/s |
| Interfaces | 2 × Ethernet 10/100 Mbps, embedded isolation 1.5 kV AC / 1 minute |
| Memory | SRAM 4MB |
| Connectors | 4 × BNC, 2 × RJ-45 |
| Consumption | 6 W |
| Position in 5 / 8–10 / 16 slots bus | Any |

Front panel of RTU7M AI-4UF/1.28-AI

