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APS-180-LOOP

Interruption free line monitoring)

General functioning

The isolator units are mounted in the installation of the louds-peakers, depending on fire sections. The contacts of those two relays in the isolator are usually conducting and the unit is switched on. The carrier signal which supplies the isolator unit is modulated on the 100 V signal. In normal operation, the first output is supplying the Loop and the second output (input) detects the carrier signal. This loop wiring system is used to control the installation.

If there carrier signal is no more present on the second output (input) of the unit, there is an error in the installation. This can be an interrup-tion or a short circuit. The corresponding LED indicator on the device light up when an error occurs in a loop.

Additionally to first output, the second output of the unit also supplies the installation with the 100 V signal during the interruption.

In case of short circuit, the isolators detect autonomously the incorrect fire sector in the installation. The both concerned isolators deactivate in each case unilaterally a relay and the short circuit is therefore isolated. In addition to the first output, the installation will also be supplied by the second output (input) of the device with the 100 V signal and the carrier signal. The loop is operating therefore again except the loudspeakers in the faulty area. Several short circuits can be recognised and, whereby, all loudspeakers drop out between the first and the last concerned isolator unity.

If the isolator is mounted on a loudspeaker (must be connected to the loudspeaker connector of the isolator), he can also detect a short circuit of the loudspeaker and accordingly isolate.

The isolators (after a fault) will be reset by switching off the carrier signal for at least one second.

▸See block diagram data sheet GM-7179-IS

Initial operation

As a first step set up the device number suitable for APRO-SYS programming in the setup «Menu». After the installation of a Loop, switch on the device via the APS centre. As long as the isolators are loaded (3–8 seconds per isolator), the LED flashes and the display shows «Charging isolators». After successfully switching of all isolators in a loop, the display shows «Isolators ok», the blinking LED turn off and the loop is therefore ready for use.

Each installed loop can be controlled on its correct function by simulating of one or more short circuits and interruptions. After an error, the display shows «Fault» and the LED of the corresponding loops are permanently lit. An error message will be sent to APS-177 and the error-message contact switches on.

The loop can be reset after the correction of the error in the submenu «Reset Fault» and then restart with «Restart Isolators».

Important: ensure the correct polarity of the isolators!

Settings

General settings:
- Audio-switching off in case of error (during isolation)
- Device number

The following settings are possible per Loop:
- Number of isolators: no function
- Activation: switching on / off of single unused loop (switching off of unused loop)
- Threshold short circuit: threshold for detection of a short circuit. The default value is 60
- Level carrier: a higher level is much more necessary for the long lines than for the short lines. The default value is 150
- Short-to-ground measurements activation: switching on/ off of Short-to-ground measurements
- Reaction on short-to-ground measurements: switching off of the loop on short-to-ground
- Amplifier detection: switching on / off of amplifier detection