ACTI-Link

ACTI-Link is a communication device dedicated to the remote activation of monitoring and alert system components that require the remote activation or deactivation of instruments for the dissemination of audible or visual alarms or for the prohibition of vehicular traffic. An example could be the management of a traffic light installed in the vicinity of a hydrometric monitoring station situated in a floodable stretch of road. In particular, the closure of a contact on the input of a device or the command issued on the serial port also occurs on the remote device to which it is connected via radio.

In the event of exceeding the critical threshold of any of the parameters measured, thanks to ACTI-Link it is possible to send a command via a radio signal. This signal is able to cover more than 5 km in optimal conditions, propagating itself through point-to-point or point-multipoint type communications and activating all the “target” modules that constitute the alarm system. The distance in question can be extended using ACTI-Link repeaters. Each network of ACTI-Link modules can contain numerous devices and can be divided into several groups, which can be activated independently or simultaneously and, for example, may allow the network to be divided according to spatial (e.g. East area, West area, etc.) and typological (traffic lights, sirens, motorised barriers, etc.) criteria.

The ACTI-Link module has been developed to perform, also simultaneously, several functions:

- Activator: a signal arrives from a digital input (e.g. relay) and is repeated by radio to other ACTI-Link modules.
- Component actuator: a signal arrives from another ACTI-Link device and causes the commutation of a digital output.
- Repeater from and to other modules: a signal arrives from another ACTI-Link device and is repeated via radio.
- PC interface: the device connects to a PC and, using software developed ad hoc, manages system diagnostics and manual device activation.

TECHNOLOGY AND OPERATION

ACTI-Link radio modules operate using UHF radio modules, belonging to the SRD category, in the frequency range 868-870 MHz divided into 126 channels (in accordance with ETS 300220-2) with GFSK modulation. They can therefore be freely used without the need for any license. Each module has 4 inputs and 4 outputs, all digital, which can automatically give rise to as many pre-set actions, depending on the evolution of the monitored risk scenario. The 4 digital outputs are implemented through the use of a solid state relay whose main features are: long life and the possibility to be connected in such a way as to create an output contact, both normally open as well as normally closed. Each device can be configured using its 4 banks of dip-switches. ACTI-Link also measures the power supply voltage, thanks to which it is able to activate a specific output if this falls below a user-definable critical threshold.

ACTI-Link incorporates several diagnostic functions:

- RSSI: used to establish the robustness and reliability of the RF link between all the devices;
- Ping: based on the response times it enables the message path to be traced;
- Battery: checks the value of the power supply voltage and allows the related alarms to be set;
- Status reading: it is possible to read a variety of information including: ID, area, input and output statuses.

Operating frequency	868÷870 [MHz]
Transmission range	with optical visibility up to 5.9 [km], otherwise 3 [Km]
Output power	23÷27 [dBm] (500 [mW])
Receiver sensitivity	-120 [dBm]
Signal inputs	4 inputs + 4 digital outputs
Power supply	12÷14 [V]
Temperature range	-40 [°C] /+60 [°C]
Housing protection	IP65
Dimensions	160 X 40 X 80 mm (*l x h x d*)
Weight	690 [g]