

# Loop Interface

## LIF601-1

- **Selectable loop protocol for different detector brands**
- **Up to 318 elements on the loop**
- **„Plug & play“ during operation**
- **Pluggable screw terminals**
- **Integrated „In-circuit“ measuring function for convenient loop evaluation**
- **Maximum loop current 500mA**
- **8 parameterisable outputs**

### Description

By means of the Loop Interface LIF601-1, an intelligent loop with bi-directional data traffic can be connected to Fire Detection Control Panels Series BC600. The loop protocol can be parameterised on the control panel, which makes linking different brands of detectors to a control panel possible.

Via the loop, up to

- 318 elements with **System Sensor/200AP** protocol – 159 detectors and 159 modules – or
  - 240 elements with **Labor Strauss/700** protocol or
  - 126 elements with **Apollo/Discovery** protocol
- can be connected to the LIF601-1. The sophisticated loop protocols allow the loop interface to evaluate an alarm in no time, which helps to detect fires quickly.

Thanks to the high output current of up to 500mA, a larger number of loop elements with higher current demand – such as loop sounders – can also be used on the loop.

On the loop interface, one isolator each is integrated on the loop output and on the loop input. In the event of a short circuit, the isolator safely and quickly interrupts the loop, thereby ensuring undisturbed communication with the loop elements outside the loop section experiencing the fault. Thanks to the VdS confirmed high response speed of the „High speed“ isolators as well as the quick change of the communication direction of the LIF601-1, the operation of sirens is interrupted for less than one second in the event of a short circuit or wire breakage on the loop.

Each loop can be subdivided into a maximum of 200 detector zones. The function of the detector zone – for

example, manual call point zone, automatic fire detector zone, technical message or fault detection zone – as well as the element types of the loop elements can be parameterised on the fire detection control panel.

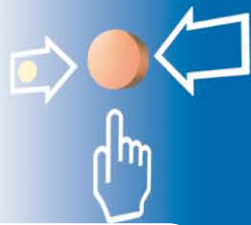
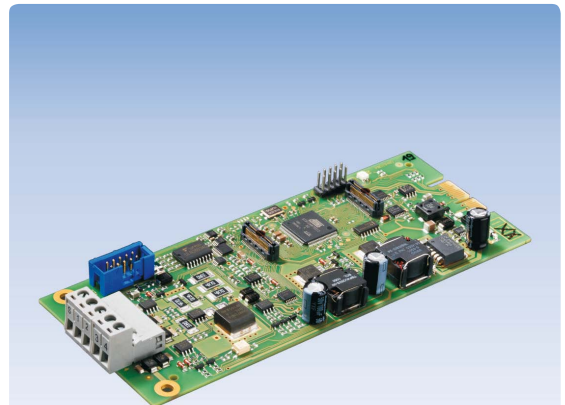
By means of the integrated „In-circuit“ measuring and analysis function, electrical characteristics on the loop can be obtained and faults in the loop communication can be evaluated during normal operation. In the course of commissioning or maintenance, this allows the evaluation of the transmission quality on the loop as well as the detection of external voltages, poor wiring, or of line resistances that are too high. For example,

- the resistance of both loop lines,
  - the loop current,
  - the loop voltage at both terminals, or
  - the number of faulty queries on the loop
- can be indicated on the Fire Detection Control Panel Series BC600.

The continuous monitoring of the detector function and of the analogue values allows trouble-free operation and timely recognition of detector contamination. Furthermore, on the control panel a maintenance prognosis can be performed for each connected smoke detector.

The LIF601-1 is equipped with a processor of its own. At a possible central processing board failure, the diversified redundancy concept thus ensures reliable alarm recognition.

The loop interface is actuated and powered via the system bus of the control panel. A firmware update and the transmission of the parameters are also carried out via



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the system bus. The „hot plug & play“ function allows the loop interface to be connected or removed during normal operation, the componentry is detected automatically by the central processor. The condition of the bus communication and of the componentry is indicated by an integrated light emitting diode.

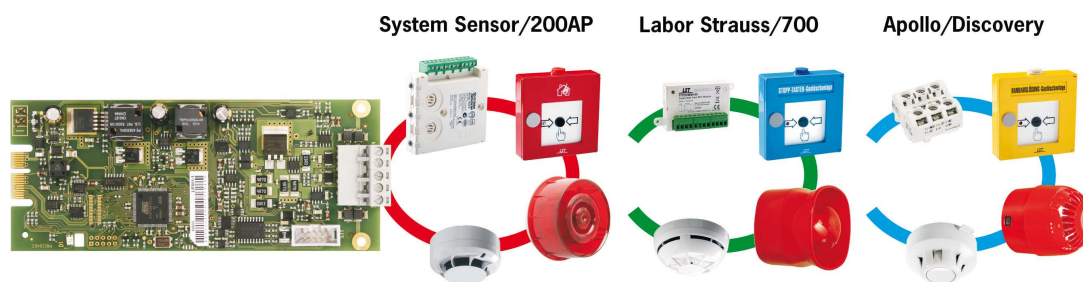
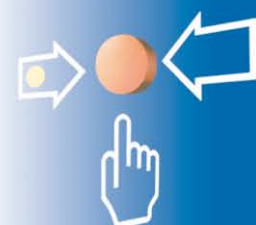
Through the fire detection control panel, AUTO-setup can be used to detect the connected loop elements automatically. Depending on the loop protocol, AUTO-addressing can be additionally carried out or the loop position can be established through AUTO-mapping.

Usually, the loop is wired as ring. Thanks to the ring-shaped wiring, all elements on the loop keep working

in the event of a single wire breakage. If necessary, branch lines can also be connected to the ring. A wire breakage or short circuit is indicated on the control panel as loop fault.

Unshielded wires can be used for the fire detector cabling and, therefore, existing installations can be adopted very easily and existing cabling can be reused. Maintenance and the exchange of the componentry are made easier by the use of pluggable screw terminals for the loop connections.

For general control tasks, 8 freely parameterisable open-collector outputs are integrated on the LIF601-1. The outputs can be used for directly actuating a Relay Module RL58-1 or RL58-2.



## Specifications

Current consumption at 24V (without detectors/modules)	typ. 27mA
Number of detector zones	max. 200
Number of detectors/modules	
System Sensor/200AP protocol	max. 318 elements (159 detectors + 159 modules)
Labor Strauss/700 protocol	max. 240 elements
Apollo/Discovery protocol	max. 126 elements
Idle loop current	typ. 300µA per detector/module
Total loop current	max. 500mA (at reduced line resistance)
Loop line resistance	max. 50Ω per core
Ambient temperature	-20°C to +60°C
Dimensions L × W × H	160 × 65 × 20 (mm)
Weight	80g
Order number	211110
Order name	Loop Interface LIF601-1