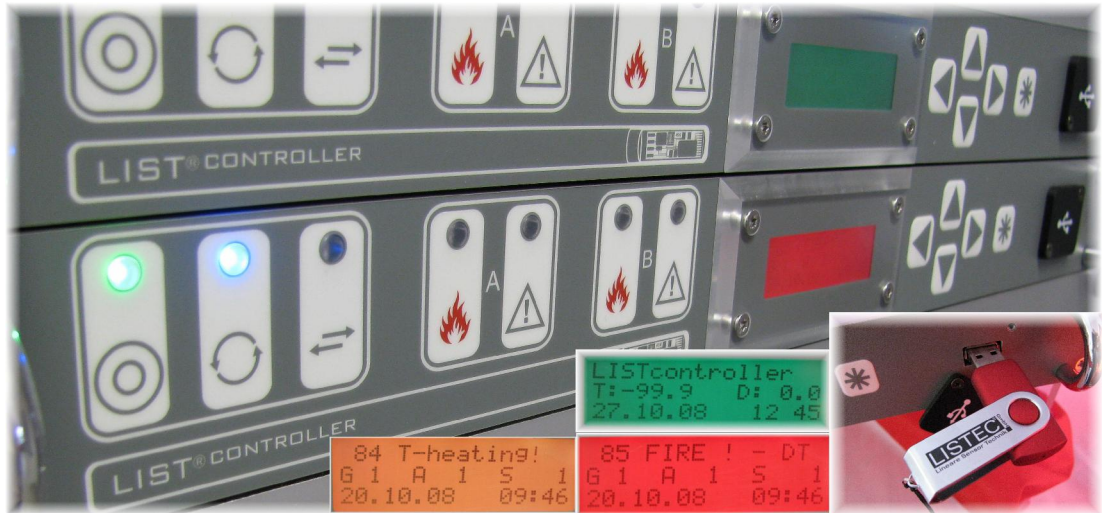


LIST[®]CONTROLLER



The **LIST[®]CONTROLLER**, with its ARM9™ embedded processor and two secondary processors, is the new generation control and evaluation unit for LIST[®] systems. The three processor system allows rapid and reliable recognition, detection and signalling of fires. One or two sensor cable lengths or group of sensor cable branches may be connected to the controller, which performs the cyclic addressing of all connected sensors to receive actual temperature values with a high resolution and an exceptional recurring accuracy.

In case of a temperature increase, within programmable levels, the recognition of a fire is indicated. An alarm is given, if a differential alarm threshold is exceeded or if a maximum temperature value is reached.

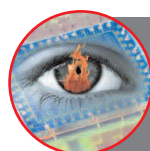
Both alarm thresholds are independently programmable for up to 254 zones.

The LIST system reaches a high sensitivity due to the fact, that the temperature is measured with a resolution of 0.1°. The proven software algorithms guarantee the reduction of any influence through natural temperature variations, thus preventing the risk of false alarms. The unique LIST measuring technology enables an absolutely stable measuring of all sensors with an recurring accuracy of ±0.1°.

An alarm is indicated on the controllers front panel by LEDs and on the clear text liquid crystal display (LCD). Alarms are highlighted by a red and faults by orange background lighting in the display.

Alarm signalisation to superordinate systems takes place via potential-free relay contacts and / or through communication interfaces with open data protocols.

The controller can be reset on the front panel, through an external electrical reset signal from fire control panel or via the communication interface.



Highlights:

- High-speed analysis of temperature data with three-micro-processor technology
- Flexible communication via various interfaces
- USB (host) interface for easy transmission of maintenance data
- Clear text display with coloured back-ground
- Low power consumption
- Modular system for easy checking and repairs.
- RoHS conform
- Long life-span of all components
- 100 Mb/s LAN interface for rapid data transmission

General:

Collective display (LEDs) for

- Fire sensor cable A
- Fire sensor cable B
- Fault sensor cable A
- Fault sensor cable B
- Operation
- Temperature measurement
- Data transmission

Clear text display

3 Line 16 character LCD, with RGB back-ground lighting for the signalling of messages and data in various languages. The normally green background turns red in case of an alarm.

Menu keys

5 Keys for the menu navigation to display messages, parameters, etc.

Audible alarm

The controller gives an audible alarm while unacknowledged fire or fault alarms are present; the sounder function can be disabled generally.

Alarm zones

Up to 254 alarm zones may be defined by software. The number of sensors resp .the length of each alarm zone is independently selectable.

Fire recognition

A fire recognition is signalled if the increase of temperature has passed a programmable level of the pre-settable threshold.

Alarm criteria

Alarms are initiated, if an absolute or differential alarm threshold is exceeded. A frost alarm can be generated, if the temperature falls below a set threshold. All alarm thresholds can be programmed individually for each alarm zone.

Fault recognition

Faults in the sensor cable, e.g. a defective measuring point, are generally recognised and shown within 10 sec (fire detection). All faults, including those in the controller, are stored in the internal messages list.

Security

A password is necessary for any changes to settings and parameters. Various groups of operators (e.g. for inspection, maintenance or service) may have access through different password levels.

Interfaces

COM 1: Master/Slave-interface for networked LIST systems

COM 2: RS 232 interface for the connection to superordinate systems via data protocols (up to 115200 kb/s)

COM 3: RS 232 interface for programming via the LISTerm software (up to 115200 kb/s)

Ethernet: for fast data transmission in networks (10/100 Mb/s, TCP/IP)

USB Host: for the storage of maintenance information and data on to a memory stick; access on the front panel.

Data protocols

Public data protocols enables interconnection to other control systems:

- MODBUS/JBUS
- MODBUS TCP
- IEC 60870-5-104
- 3964R
- SK 1702

Connections

Lock-connectors for all connections are situated on the rear panel.

The basic version has one connection for the sensor cable (SEC A). A second, optional, connection (SEC B) can be used for:

- a second independent sensor cable
- the looping back of the first sensor cable
- a second sensor cable with RDT-function (redundancy) in combination with a second controller and the Data Management Unit

Environments:

The LIST® controller fulfils the RoHS requirements and contains no batteries.

Options

Loop Back module	LBMOD
RDT module	RDTMOD
Relay module	RELMOD8
Relay module	RELMOD16
Power supply	PS2401
data protocols	upon request
LIST@prog	maintenance /programming software

Specifications:

Resolution: 0.1°

Recurring accuracy: ±0.1°

Number of sensors:

max. 350 per sensor cable connection (fire detection)

max 500 per sensor cable connection (temperature measurement)

Sensor cable lengths:

Fire detection

2 800m max. in normal mode

5 600 m max. in RDT-mode (redundant)

Temperature measurement :

4 000m max. in normal mode

8 000 m max. in RDT-mode (redundant);

See Listec guidelines for planning and installation subject to national requirements.

Operating temperature range: 0°C .. +70°C

(with restrictions: -20°C ..+70°C)

Dimensions: 482 x 320 x 44 mm
(19"-subrack, 1U)

Housing: Aluminium

Weight: 2,6 kg

Power supply: 11 – 36 V_{DC}

Power consumption: max. 5 W

Outputs

Floating change-over contacts:

Alarm, pre-alarm: 3 relays
Fault: 1 relay

Switching voltage: 48 V_{DC} / 32 V_{AC} max.
Switching contact: 250 mA max.

Input

Reset input, galvanically separated, for 5 - 24 V_{DC}-signal.

Another input is for future extensions.

Extent of delivery

- Pre-fabricated cables (3m) for the connection of the following rear panel sockets to terminal blocks: sensor cable, I/O-signals, power
- CD with data sheet, operating manual, installation guidelines
- 1 GB LISTEC Memory Stick

Specification subject to modifications

