

LON-WA1/FT3



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## LON-WA1/FT3

### COMMUNICATION INTERFACE FOR EXCHANGING VARIABLES VIA LONWORKS

Functional modules designed for the monitoring of motorised fire dampers

- Easy integration into higher level systems due to standard network variables (SNVT)
- Programming is based on LonMark functional profile 110.01, 'Fire and Smoke Damper Actuator'
- Direct communication between modules (decentralised intelligence)
- High transmission reliability and data integrity
- Network can easily be expanded (free topology)

## Application



### Application

- LON-WA1/FT3 is a functional module that has been specially developed for the monitoring of motorised fire dampers
- Up to four motorised fire dampers can be controlled with a LON-WA1/FT3
- Supply voltage: 230 V AC, 24 V AC/DC
- The connections for the damper actuators are either designed for the respective supply voltage of volt-free
- LON interface with FT5000 transceiver
- A separate LON standard bus is used as a communication line
- Standard network variables (SNVT) have been used for all functions such that LON-WA1/FT3 can be integrated flexibly and easily with higher level systems
- Based on the LonMark specification 'Fire and Smoke Damper Actuator'
- LonMark functional profile 110.01, 'Fire and Smoke Damper Actuator', has been used

## TECHNICAL INFORMATION

### Functional description

LON-WA1/FT3 can be used to control up to four fire dampers.

If less than four dampers are connected, the 4-pole terminal blocks must have a wire link between the respective 'OPEN position' terminals (E1, E3, E5, E7). This is to prevent an alarm for non-existing dampers.

Input variable ActuDrive is used to control the fire damper.

Output variable ActuPosn is used to signal the current damper blade position.

The following applies:

- Normal = Fire damper is OPEN
- Fire = Fire damper is CLOSED

When LON-WA1/FT3 is supplied with voltage, the connected dampers move into their respective normal position.

In case of an error, VDMA sheet 24200-1 (Automated fire protection and smoke extract systems) applies:

Safe positions

- Fire damper = CLOSED

If LON-WA1/FT3 is used, the heartbeat function should be activated (for safety reasons).

Setting parameter MaxRcvTime for variable ActuDrive, and parameter MaxSendTime for variable ActuPosn, ensures that all LON-WA1/FT3 modules regularly send and receive information. This ensures that the transmission path is being monitored. In case of an error, the damper moves to a safe position, and an alarm is emitted.

Input variable FT\_Test or the test push button of the modul can be used to initiate a functional test of the damper. This moves the dampers to the 'Fire Position' and back to the 'Normal' position (OPEN). The output variable FT\_Test indicates whether a test is being carried out.

The module remains in the test condition for the entire TestHoldTime.

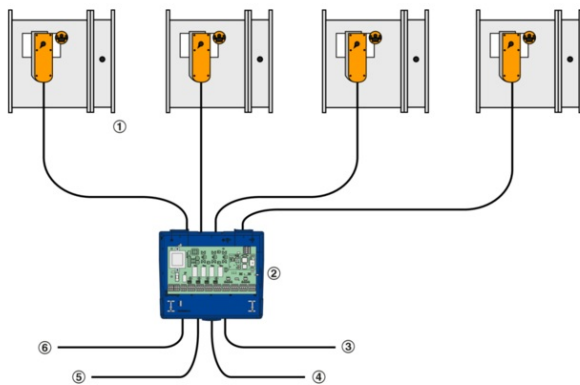
If ActuDrive switches to 'Fire' during a test, the test is automatically aborted.

If there is a chain of modules (and hence fire dampers), the FireChain variables can transmit a signal from the first to the last but will not release a damper. The FireChain relay in the LON-WA1/FT3 module receives a signal and can be used for consolidated alarms or to switch off systems.

The Pulse variables are used to check a LON network.

If the input variable is set, the LON-WA1/FT3 module will change the output variable after 1 second. If there is a chain of modules, a trigger pulse is generated which can be read out at the end of the chain after  $N \times 1$  seconds ( $N$  = number of LON-WA1/FT3 modules).

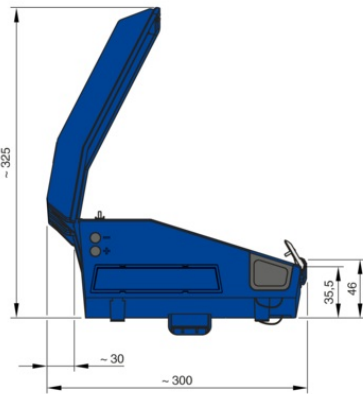
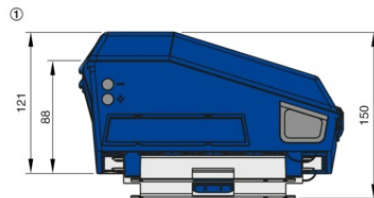
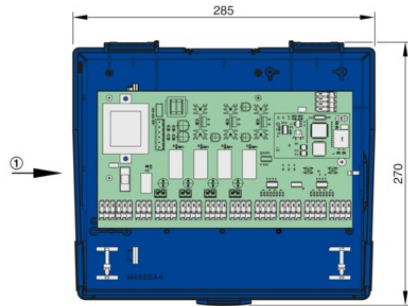
### Control input signal LON-WA1/FT3



- ① Motor 230 V/24 V
- ② LON-WA1/FT3
- ③ 230 V AC/24 V AC/DC
- ④ LON
- ⑤ FT 5000 twisted pair

4 fire dampers per module

### Module LON-WA1/FT3



① Illustration shows module rotated by 90°, with cover

|   |  |
|---|--|
| <b>Supply voltage</b>   | 230 V AC $\pm$ 10%, 50/60 Hz, 24 V AC or 24 V DC $\pm$ 10% as an option; double terminals for looping through  |
| <b>Power consumption</b>  | Approx. 12 VA without actuators (4.8 VA or W)  |
| <b>Inputs</b>   | 8 digital inputs for volt-free switches  |
| <b>Outputs</b>  | 5 digital outputs, each with changeover relay  |
| <b>LON interface</b>  | 4-pole spring-loaded terminals for 0.08 – 2.5 mm <sup>2</sup> ; FT5000 free topology   |
| <b>Protection level</b>   | IP 20  |
| <b>Operating temperature</b>                                      | 10 to 60 °C  |
| <b>Relative humidity</b>  | 20 – 95 % (non-condensing)   |
| <b>Terminals</b>  | Actuator control: 4-pole spring-loaded terminals for 0.08 – 2.5 mm <sup>2</sup> ; actuators for position indication: 4-pole spring-loaded terminals for 0.08 – 2.5 mm <sup>2</sup> |
| <b>Supply voltage for terminals</b>                               | 2 $\times$ 3-pole for 0.08 – 2.5 mm <sup>2</sup>   |
| <b>FireChainSignal</b>  | 3-pole spring-loaded terminals for 0.08 – 2.5 mm <sup>2</sup>  |
| <b>Software application</b>                                       | xif/apb-files under <a href="http://www.trox.de">www.trox.de</a>   |
| <b>Dimensions (B <math>\times</math> H <math>\times</math> T)</b> | 285 $\times$ 270 $\times$ 150 mm   |
| <b>Material</b>   | ABS plastic, blue (RAL 5002)   |

### Standard description (characteristics)

LON module for the control of up to four motorised fire dampers (230 V or 24 V AC/DC). For controlling the dampers and capturing end positions OPEN and CLOSED. Transmission of all signals to higher level systems and control of motorised fire dampers via LON field bus FT5000 and using standard network variables; transmission of system status; watchdog and heartbeat functions: compliance with LonMark specification 110.01, 'Fire and Smoke Damper Actuator', LonMark certificate.

The following parameters can be defined:

- Maximum interval for sending data
- Minimum interval for receiving data
- Maximum interval for sending status
- Zone number
- Designation of the damper
- Installation date and time
- Date and time of the last inspection; maximum time required to CLOSE the damper
- Maximum time required to OPEN the damper – maximum time for test run

### Connections

- 8 digital inputs
- 5 digital relay outputs, changeover contact 250 V/5 A
- Supply voltage 24 V AC/DC or 230 V AC
- Outputs either with supply voltage or volt-free
- Connection to LON bus via FT5000 transceiver

# LON – WA1 / B3



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## **1** Module

**LON-WA1/B3** Module for controlling up to two actuators

**LON-WA1/B2-AD** Connection box for connecting the second actuator

**LON-WA1/B2-AD230** Connection box with integral 24 V power supply unit for connecting the second actuator

**LON-WA1/FT3** Module for the control of up to four actuators

**LON-WA4/B** Module for capturing up to four damper end positions