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LON-WA1/B2

LON-WA1/B2

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/B2 is a functional module designed for the monitoring of fire dampers that are equipped with a plug-in 24 V actuator (e.g. Belimo); this simplifies installation
- The module is installed on a fire damper and connected to the 24 V actuator by a plug connection
- Two motorised fire dampers can be controlled with a LON-WA1/B2
- Easy integration into higher level systems due to standard network variables (SNVT)
- Based on LonMark functional profile 110.01, Fire and Smoke Damper Actuator
- The module is certified by LonMark

TECHNICAL INFORMATION

Functional description

LON-WA1/B2 can be used to control two fire dampers.

A second fire damper is connected with LON-WA1/B2-AD or LON-WA1/B2-AD230.

If only one fire damper is connected, the 8-pole terminal block for the connection of the second fire damper must have a wire link between terminals 5 and 6 (end position OPEN). This is to prevent an alarm for the second, missing fire damper.

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/B2 is supplied with voltage, the connected dampers move into their respective normal position.

Pressing the Test button moves the dampers to the Fire position, and after the OffTime + 10 s back into the 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/B2 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/B2 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 can be used to initiate a functional test of the damper. The dampers are then moved to the 'Fire Position'. The output variable FT_Test indicates whether a test is being carried out.

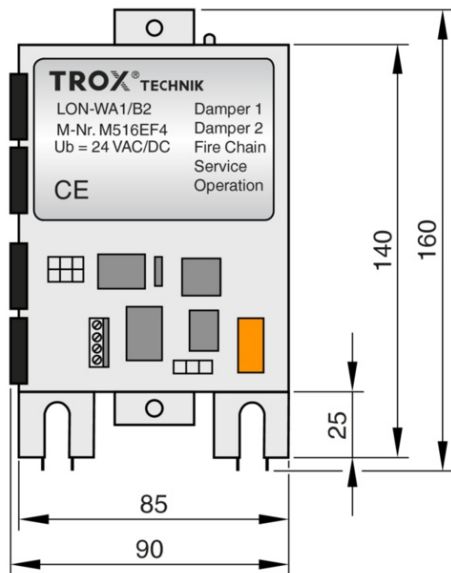
The module remains in the test condition for the entire TestHoldTime. The damper remains in the 'Fire Position' until a new command is issued using ActuDrive. If ActuDrive switches to 'Fire' during a test, the test is automatically aborted.

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/B2 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/B2 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/B2 modules).

LON module LON-WA1/B2



Supply voltage	20 – 28 V AC/DC, 50/60 Hz; double terminals for looping through
Power consumption	3.12 VA or 1.32 W (without actuators)
Inputs	4 digital inputs for volt-free switches
Outputs	3 digital relay outputs; changeover relay for damper 1 (fire damper): max. switch rating at V AC: 120 VA (5 A resistive load); NO relay for damper 2 (second fire damper): max. switch rating at 24 V AC: 144 VA (6 A resistive load); NO relay for Fire Chain: max. switch rating AC: 1500 V A (250 V AC; 6 A resistive load)
LON interface	4 terminals, LON; FTT10 free topology
Protection level	IP 54
Operating temperature	10 to 60 °C
Relative humidity	20 – 95 % (non-condensing)
Terminals	Actuator control: 3-pole AMP MATE-N_LOK socket Actuators for position indication: 6-pole AMP MATE-N_LOK socket
Supply voltage for terminals	Clamp terminals, 90°, for 0.08 – 2.5 mm ²
FireChainSignal	Clamp terminals, 90°, for 0.08 – 1.5 mm ²
Software application	xif/apb-files under www.trox.de
Dimensions (B × H × T)	≈ 90 × 160 × 54 mm
Material	Plastic

Standard description (characteristics)

LON module for the control of up to two motorised fire dampers (24 V) The actuators for the dampers are connected with AMP Mate-N-LOK plugs. Can be attached to the fire damper with a mounting bracket. 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 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 second motorised fire damper should be connected using LON-WA1/B2-AD or LON-WA1/B2-AD230 (accessories).

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

- 4 digital inputs including 2 with AMP Mate-N-LOK socket
- 3 digital relay outputs including 1 changeover contact via AMP Mate-N-LOK socket
- 8-pole terminal strip for the connection to LON-WA1/B2-AD or LON-WA1/B2-AD230
- 3-pole AMP-Mate-N-LOK socket
- 6-pole AMP-Mate-N-LOK socket
- 24 V AC/DC supply voltage
- Connection to LON bus via FTT10A transceiver
- Protection level IP 54

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