

Features

- Adjustable to all conventional and analogue addressable fire alarm systems
- Simple mounting in centrals or conduit boxes
- Prepared for mounting on standard TS rails
- Meets the EMC demands in relation to CE-labelling
- Monitored inputs and outputs
- Constructed for duplex 24V DC power
- All connections on pluggable switches
- Easily connected to extern control panel

Applications

BA-40 is an extinguishing release module used in automatic fire extinguishing system.

The module consists of 2 extinguishing zones. Each zone utilizes common functions and controls and monitors an extinguishing zone (an area, a room, a machine, an electrical cabinet etc.). Every zone has 5 inputs, 4 outputs and 7 LED indicators. The common functions consist of 4 inputs, 4 outputs and 3 LED indicators.

Several BA-40s can be used if more than two extinguishing zones are required.

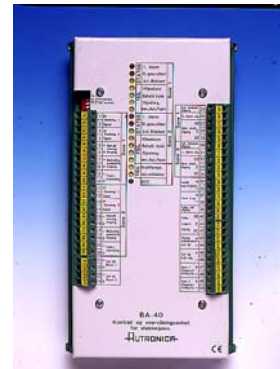
The delay period before release of the extinguishant is determined by the switch settings on block S1, switch S1.1 and S1.2. It is also possible to invert common fault signal (39) and turn off the short circuit monitoring of the signal inputs.

Inputs:

- Automatic release input control 1 and 2, monitored for breaks and short circuits. An active signal on input 1 or 2 starts the delay period. Activation of the 2nd input control during the delay period will activate the extinguishing output at the end of the delay time.
- *Manual release input.* Monitored for breaks and short circuits. Two-stage function input. S1 gives alarm at common sounder alarm output and first alarm output. S2 gives manual release.
- Break- and short circuit monitored
- Blocking of automatic release function. Break- and short circuit monitored. Activation of the input during delay period inhibits automatic release in the actual zone. The input is also used for termination of the delay period.
- Pressure monitoring. Monitored for breaks and short-circuit. Open contacts indicate too low pressure in extinguisher.

Outputs:

- Alarm output 24V DC / 0,5A. Activated at first alarm and open cover on manual release box. Cancelled by active signal on input for silencing alarm. Polarity dependent alarm sounders.
- Output for indication of active signal on one of the automatic release input controls. Transistor-output, 100mA, non-monitored.
- Indication of extinguishing equipment released. Non-monitored. Max. 24V DC/ 1A
- Common fault output. Transistor output, 100mA, non-monitored



Light indicators (LED):

Status indications:

- Red indicator illuminates when the 1st automatic release input is activated. The delay period starts.
- Red indicator illuminates when the extinguishant is released.
- Yellow indicator illuminates when automatic release is inhibited (manual only)

Fault indications:

- Yellow indicator illuminates when there is a fault condition on one of the automatic control inputs (e.g. break / short circuit).
- Yellow indicator illuminates when there is a fault condition on the output release circuit (e.g. break / short circuit).
- Yellow indicator illuminates when there is a fault condition on the manual release input, automatic inhibit circuit or the pressure monitoring circuit (e.g. break / short circuit).
- Yellow indicator illuminates when the pressure in the extinguishant tank is too low.

Common functions

Inputs:

- 27V DC / 3,15A, Power inputs 1 and 2. Monitored (>18V, <31V DC).
- Closing contacts silences the sounder alarm outputs (sounders, sirenes). The input is non-monitored.
- Input for reset of control module. Short-circuit > 5-10 seconds gives steady light in fault power supply LED and activates fault output
- Connection of BAV-45

Outputs

- Sounder alarm output 24V DC / 0,5A. Activated at first alarm and open cover on manual release box. Cancelled by active signal on input for silencing alarm. Polarity dependent alarm sounders.
- Output for indication of active signal on one of the automatic release input controls. Potential free relay.
- Common fault output. Transistor output, 100mA, non-monitored.
- 24V DC output for external equipment. Monitored, 0,5A fuse.

Technical specifications

Dimensions	HxBxD = 230x126x65 mm
Weight	0,6 kg
Material	Plasthus m/ståldeksel
Protection degree	IP30
Power supply 1 and 2	2 stk. 24 V DC inputs / 3A
Power consumption (normal) 1 zone 2 zones	70 mA 80 mA
Power consumption (alarm) 1 zone 2 zones	1,5A 3A
Cable dimension	2 x 1,5mm ²
Release circuits	22-24V DC/ 1A
Manual release circuit	BW-20A

Light indicators (LED):

- Green indicator is lit during normal operation (when one of the power inputs is connected to 24V DC).
- Yellow indicator illuminates with following fault conditions: Communication fault between BA-40 and operator panel BAV-45 if this panel is mounted, short circuit on reset input or hold on reset button for more than 5-10 seconds, the fuse for the 24V power output (F3=0,5A) is defect or 27V DC is missing on one of the power inputs (Power 1 or Power 2).
- Yellow indicator illuminates when theres is a fault condition on the sounder alarm output (e.g. break / short-circuit).

DIP-switch

The DIP switch is mounted on the circuit board on the left top. Be aware that the switch is shown the way it looks when the BA-40 unit is in an upright position. *The status (normal / reversed) on the common fault signal (output 39) is determined by the switch settings on switch S1.3 (as shown on the drawing). The delay period before release of the extinguishant is determined by the switch settings on block S1, switch S1.1 and S1.2. Short circuit monitoring of input signals is determined by switch S1.4*

Delay period for release of extinguisher after activation of o of the control inputs. Settings on S1.1 and S1.2. (Factory settings: 60 seconds)

OFF	ON	OFF	ON	OFF	ON	OFF	ON
1	2	1	2	1	2	1	2
3	4	3	4	3	4	3	4
0 seconds	30 seconds	60 seconds	180 seconds				

Status common fault signal (output 39) / Settings on S1.3. (Factory settings: Normal)

OFF	ON	OFF	ON
1	2	1	2
3	4	3	4
S1.3 — Normal	S1.3 — Reverted		
Gives 0-volt control at failure.	Breaks 0-volt control at failure		

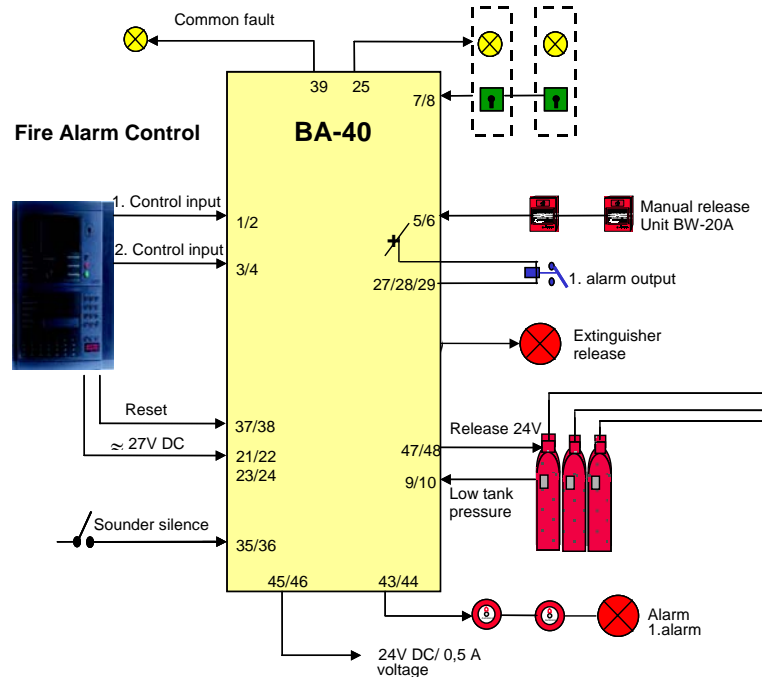
Status for monitoring signal input/ Settings S1.4 (Factory settings: OFF)

OFF	ON	OFF	ON
1	2	1	2
3	4	3	4
S1.4 — Break and short circuit monitored.	S1.4 — Break monitored only.		

S1.1) Release delay
S1.2) Fault inv.

1	0V	Input control 1	Zone 1
2	Signal		
3	0V	Input control 2	
4	Signal		
5	-	Manual release. Input	Zone 2
6	+		
7	-	Automatic inhibit. Input	
8	+		
9	-	Pressure monitoring. Input	Zone 3
10	+		
11	0V	Input control 1	
12	Signal		
13	0V	Input control 2	Zone 4
14	Signal		
15	-	Manual release. Input	
16	+		
17	-	Automatic inhibit. Input	Zone 5
18	+		
19	-	Pressure monitoring. Input	
20	+		
21	-	24V DC Power 1	Zone 6
22	+		
23	-	24V DC Power 2	
24	+		

1st. Alarm	25
Gas released	26
Aut. Inhibited	NO 27
Release outp.	C 28
Press. contr.	NC 29
Contr. inputs	
Man./Aut./Press	
1st. Alarm	30
Gas released	NO 31
Aut. Inhibited	NC 32
Release outp.	C 33
Press. contr.	NC 34
Contr. inputs	
Man./Aut./Press	
Power supply	
Sounders	
Power	
Silence Sounders. Input	+ 35
Reset Inp.	- 36
Com. fault output	+ 37
Common 1st. Alarm output	- 38
Sounder output 24VDC	+ 39
24V DC 0,5A utg.	NO 40
Zone 1 Release 24VDC/1A	C 41
Zone 2 Release 24VDC/1A	NC 42
Zone 1 Alarm	+ 43
Zone 2 Alarm	- 44
Zone 1 Release 24VDC/1A	+ 45
Zone 2 Release 24VDC/1A	- 46
Zone 1 Alarm	+ 47
Zone 2 Alarm	- 48
Zone 1 Release 24VDC/1A	+ 49
Zone 2 Release 24VDC/1A	- 50



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