Impulse Automation Limited

email: sales@impulseautomation.co.uk
web: www.impulseautomation.co.uk

AirBox 32

AirBox 32 is a pneumatic module of the AS-Interface family.

- AS-Interface slave 4 I / 2 OP

- 4 digital inputs via 2 x M12 sockets (double inputs)

- 2 integrated 3/2 way valves with 400 Nl/min each at 6 bar

- With or without AUX POWER (EMS or EEMS)

- All pneumatic connections via 8 mm fittings

- Manual override of valves

- Degree of protection IP 67 with common exhaust and IP 65 with sintered filter
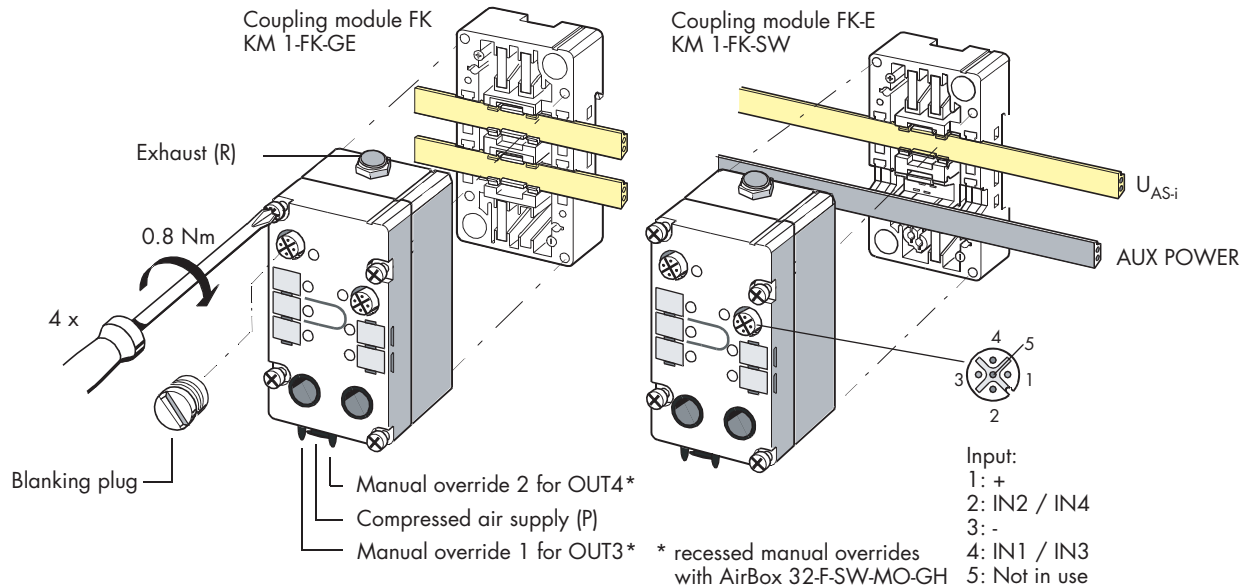
- c(UL)us

Application

The **AirBox 32** has 2 x 2 inputs and 2 pneumatic outputs. You can wire up the input sockets directly with sensors (PNP, via M12 plugs) in 2- or 3-wire connection.

The sensors are supplied with energy from the pneumatic module. The outputs and the compressed air supply are connected to the module via a 8 mm plug-in tube connector. Use outside diameter tubing only.

Installation / wiring

Coupling module FK
KM 1-FK-GE

Coupling module FK-E
KM 1-FK-SW

Exhaust (R)

0.8 Nm

4 x

Blanking plug

U$_{AS-i}$

AUX POWER

Manual override 2 for OUT4*
Compressed air supply (P)
Manual override 1 for OUT3*

* recessed manual overrides with AirBox 32-F-SW-MO-GH

Input:
1: +
2: IN2 / IN4
3: -
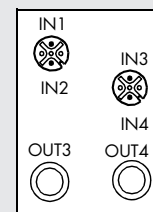4: IN1 / IN3
5: Not in use

Putting into service

For putting the user module into service, the steps are as follows:

1. Set the address. To do this, use an addressing unit or a programming and service unit.
   Valid addresses are 1 to 31. Default address is 0. Use each address once per bus segment only.

2. Fit the AS-i cable in the guide(s) on the coupling module FK.
   Fit the yellow AS-i cable and the black AS-i power cable in in the guides on the coupling module FK-E.
   Pay attention to the colour coding!

3. Screw the pneumatic module tightly onto the coupling module. The green LED lights up when AS-i voltage is present.

4. Connect max. 4 sensors to the M12 sockets (inside thread) using Y connectors to each socket.

5. Connect the compressed air supply (8 mm).
   Connect the pneumatic outputs (8 mm).
   Connect the exhaust extraction (8 mm) if necessary.

Logical assignment

The table below shows the logical assignment of the data bits:

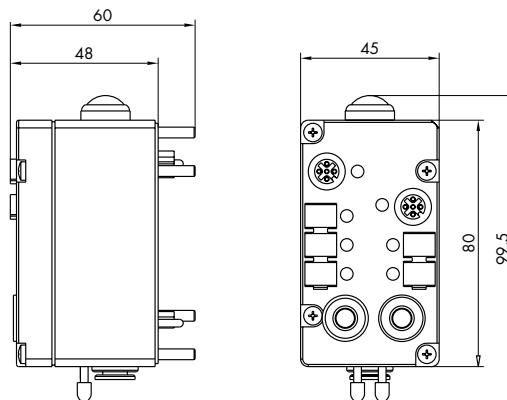| Data bit	Meaning	LEDs	Socket / Pin
I0	Input IN 1	yellow	1 / 4
I1	Input IN 2	yellow	1 / 2
I2	Input IN 3	yellow	2 / 4
I3	Input IN 4	yellow	2 / 2
O2	Output OUT 3	yellow	3 / –
O3	Output OUT 4	yellow	4 / –

IN1
IN2
IN3
IN4
OUT3
OUT4

Notes

Note the following:

- To attain degree of protection, insert blanking plugs in the M12 sockets not in use.
- In the event of overloading of the short-circuit-proof sensor power supply (Pin 1 and 3 of the input sockets), the pneumatic module interrupts communication with the master.
- Electrical control of the outputs has priority over manual control.

- Be sure to use properly treated compressed air (filtered 5 µm; non lubricated or lubricated). If lubricated air is used, the initial lubrication is removed. It is therefore necessary to carry on using lubricated air.

Dimensions

Technical data (as per AS-i specification)

AS-i certificate number	ZU no.	44801
Electrical data	I/O configuration, ID code (hex)	7, F, F, F
U_{AS-i} (yellow cable)	Operational voltage	26.5 ... 31.6 V
	Total current drain I	≤ 200 mA
	Own current requirements	≤ 45 mA
	Polarity reversal protection	integrated
Inputs	For signal "0", I_{in}	≤ 1.5 mA
	For signal "1", U_{in} / I_{in}	≥ 10 V, ≥ 5 mA
Sensor power supply	Voltage range U_{out}	20 ... 30 V DC
	Current carrying capacity I_{out}	100 mA (short-circuit-proof)
	(Total current for all sensors)	
AUX POWER (black cable)	Rated operational voltage Ue	24 V DC
	Operation voltage range U_B	20 ... 30 V DC
	Power supply unit	PELV in accordance with IEC 364-4-61
Outputs	Pneumatc outputs	2 pcs. 3/2 way valves
	Exhaust extraction	sintered filter or tube connector
Compressed air	Air flow rate	400 Nl/min (standard litre/minute) at 6 bar
	Compressed air	filtered 5 µm; lubricated or non lubricated
	Pressure range	2 ... 8 bar
Mechanical data	Degree of protection	IP 65 (with sintered filter)
	(with coupling module)	IP 67 (with tube connector)
	Weight	approx. 200 g
	Dimensions (h x w x d) [mm]	80 x 45 x 48
Temperature range	Rated temperature T_u	25 °C
	Ambient temperature T_a	0 ... 55 °C
	Storage temperature T_s	-20 ... 85 °C

Order data

Part number	Description
AirBox 32-F-GE-MO	AirBox 32 filter[1], AS-i cable yellow/yellow, monostable
AirBox 32-F-SW-MO	AirBox 32 filter[1], AS-i cable yellow/black, monostable
AirBox 32-S-GE-MO	AirBox 32 tube[2], AS-i cable yellow/yellow, monostable
AirBox 32-S-SW-MO	AirBox 32 tube[2], AS-i cable yellow/black, monostable
AirBox 32-F-SW-MO-GH	AirBox 32 filter , AS-i cable yellow/black, monostable, recessed manual overrides[3]
KM 1-FK-GE	Coupling module FK (AS-i flat cable yellow/yellow) for AirBox 1, 32 or PowerBox
KM 1-FK-SW	Coupling module FK-E (AS-i flat cable yellow/black) for AirBox 32

[1] Exhaust filtered
[2] Common exhaust; 8 mm plug-in tube connector
[3] Recessed manual overrides to be operated with adequate tools only