PMOD 6 XAL 001

ANALOG LINE MODULE

MODULE FOR CONNECTION OF ANALOG AUDIO COMPONENTS

The INTRON-X is the modern, modular IP system platform for scalable intercom, PA/GA and PA solutions from INDUSTRONIC.

With the XAL module you can connect up to 6 analog audio components – analog intercom stations as well as interconnect INDUSTRONIC systems and third-party systems.

As the control inputs and outputs are divided into separate groups of 12, it is possible to connect two systems at different voltage potential to one XAL module.



- 6 analog audio interfaces with
  - 2 x 4-wire audio (full duplex)
  - 4 x 2-wire audio (half duplex)
- 24 bidirectional potential-free control inputs and outputs
- 2 Ethernet interfaces for redundant network connection
- Power supply of the internal electronics via PoE (with redundancy) or separate DC supply
- Integrated self-monitoring
- Configuration via INDUSTRONIC management tools

PLUG-IN DEVICE 6 XAL 001

Type number	344-021-100

MECHANICAL DATA

Mounting	⅓ 19" width in a 1 RU INTRON-X 19" chassis of type 3 XRC 001
Width x height x depth	147 mm x 44 mm x 265 mm (5.79" x 1.73" x 10.43")
Weight	Approx. 1 kg (approx. 2.20 lbs)

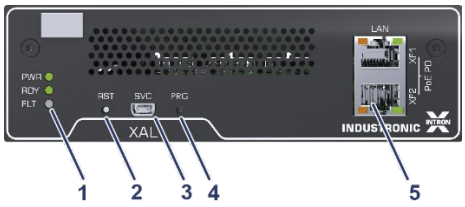
POWER CONSUMPTION (XD1 OR POE)

Typical	4 W
Maximum	6.5 W

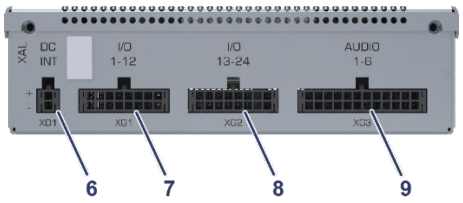
DC POWER SUPPLY (XD1)

Power supply	42 V DC to 72 V DC

FRONT/REAR



1	LEDs for operating status
2	Reset button
3	Service interface (Mini USB)
4	Service button
5	Ethernet interfaces



6	DC power supply
7	Interface to terminal block 12 XIOTB 001 (I/O 1 to 12)
8	Interface to terminal block 12 XIOTB 001 (I/O 13 to 24)
9	Interface to terminal block 6 XATB 001 or 6 XAFTB 001

CONTROL INPUTS/ OUTPUTS (XG1 AND XG2)

Quantity	12 per interface with the same reference and power supply potential
Input voltage level of each input	Off: 0 V DC to 5 V DC On: 10 V DC to 72 V DC (current consumption max. 2 mA)
Voltage and current value of each output	Max. 72 V DC, 100 mA
Power supply	Max. 72 V DC Supplied via the I/O terminal block, max. 2.5 A

AUDIO INTERFACE (XG3)

Quantity	2 x 2-/4-wire (full duplex) 4 x 2-wire (half duplex)
Frequency range	200 Hz to 16,000 Hz (+/-3 dB)

2-/4-wire input

Audio input voltage	Min. 0.4 Vpp to max. 4 Vpp (adjustable)
Input impedance	> 2 kOhms
Recommended output impedance of the analog counterpart	< 1 kOhms

2-wire output

Audio output voltage	Min. 0.4 Vpp to max. 4 Vpp at 600 Ohms (adjustable)
Output impedance	150 Ohms
Phantom power supply	Max. 72 V DC Supplied via the audio terminal block
Output phantom power	Max. 350 mA

4-wire output

Audio output voltage	Min. 0.4 Vpp to max. 8 Vpp at 600 Ohms (adjustable)
Output impedance	33 Ohms

NETWORK INTERFACES (XF1 AND XF2)

Quantity	2 x RJ45
Type	10Base-T/100Base-TX Ethernet, IEEE 802.3
PoE	IEEE 802.3af, Class 2, 6.49 W
Requirements	IPv4 network
	Support of UDP, SCTP, RTP and RTCP protocols
	Quality of Service (QoS) Ideal latency value < 20 ms (max. 50 ms) Jitter: max. 10 ms
	200 kBit/s basic bandwidth and 200 kBit/s per active audio channel

SERVICE INTERFACE (SVC)

Quantity	1 x Mini-USB

ENVIRONMENTAL REQUIREMENTS AND STANDARDS

Ambient temperature during operation	-15 °C to +55 °C (+5 °F to +131 °F)
Storage temperature	-25 °C to +70 °C (-13 °F to +158 °F)
Relative humidity (non-condensing)	Max. 95 %
Degree of protection	IP20
Vibration resistance	2 Hz to 13.2 Hz, +/-1.5 mm, 13.2 Hz to 200 Hz, 1 g
Operating altitude	Max. 2,000 m (6,562 ft) above sea level
Pollution degree	2 (according to EN 62368-1)
Electrical safety	EN 62368-1
EMC	EN 61000-6-2, EN 61000-6-4, EN 55032 Class B, EN 55035, EN 50130-4

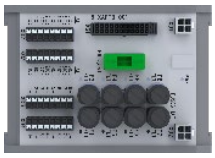
ACCESSORIES



6 XATB 001

Terminal block for 6 analog audio interfaces

Mounting	DIN rail
Width x height x depth	50 mm x 128 mm x 46 mm (1.97" x 5.04" x 1.81")
Power supply (XD1 and XD2)	42 V DC to 72 V DC, max. 16 A, 2 x 4 poles, cascadable
Audio interfaces (XG2 and XG3)	Incl. reference and supply potential 2 x 8-pole push-in terminals, 1.5 mm^2, max. 2.5 A
Type number	344-021-102



6 XAFTB 001

Terminal and fuse block for 6 analog terminal devices with additional power supply

Mounting	DIN rail
Width x height x depth	90 mm x 128 mm x 65 mm (3.54" x 5.04" x 2.56")
Power supply (XD1 and XD2)	42 V DC to 72 V DC, max. 16 A, 2 x 4 poles, cascadable
Audio interfaces (XG2 and XG3)	Incl. reference and supply potential 2 x 8-pole push-in terminals, 1.5 mm^2, max. 2.5 A
Additional power supply (XD3 and XD4)	2 x 8-pole push-in terminals 1.5 mm^2, max.1 A each
Type number	344-021-103



12 XIOTB 001

Terminal block for 12 control inputs and outputs

Mounting	DIN rail
Width x height x depth	50 mm x 128 mm x 46 mm (1.97" x 5.04" x 1.81")
Power supply (XD1 and XD2)	42 V DC to 72 V DC, max. 16 A, 2 x 4 poles, cascadable
Control inputs/outputs (XG2 and XG3)	Incl. reference and supply potential 2 x 8-pole push-in terminals, 1.5 mm^2, max. 2.5 A
Type number	344-020-102



24 XCBL 121 3.5 m LSZH-FR

Cable to connect the XAL to XATB or XAFTB, 24 poles, 3.5 m (11.48 ft), 0.14 mm^2, connectors overmolded on both sides, halogen-free, flame-retardant

Type number	244-901-351

Further cable lengths available upon request.



24 XCBL 121 3.5 m

Cable to connect the XAL to XATB or XAFTB, 24 poles, 3.5 m (11.48 ft), 0.14 mm^2, connectors overmolded on both sides

Type number	244-951-351

Further cable lengths available upon request.



16 XCBL 121 3.5 m LSZH-FR

Cable to connect the XAL to XIOTB, 16 poles, 3.5 m (11.48 ft), 0.14 mm^2, connectors overmolded on both sides, halogen-free, flame-retardant

Type number	244-900-351

Further cable lengths available upon request.



16 XCBL 121 3.5 m

Cable to connect the XAL to XIOTB, 16 poles, 3.5 m (11.48 ft), 0.14 mm^2, connectors overmolded on both sides

Type number	244-950-351

Further cable lengths available upon request.



4 XCBL 531 3.5 m LSZH-FR

Power supply cable for the terminal block XATB, XAFTB and XIOTB, 4 poles, 3.5 m (11.48 ft), 0.75 mm^2, 1 x connector covered with heat-shrink tube, 1 x flying leads, halogen-free, flame-retardant

Type number	244-905-351

Further cable lengths available upon request.



4 XCBL 531 3.5 m

Power supply cable for the terminal block XATB, XAFTB and XIOTB, 4 poles, 3.5 m (11.48 ft), 0.75 mm^2, 1 x connector covered with heat-shrink tube, 1 x flying leads

Type number	244-955-351

Further cable lengths available upon request.



4 XCBL 561 0.15

Power supply cable for cascading the XATB, XAFTB and XIOTB terminal blocks, 4 poles, 0.15 m (0.49 ft), 0.75 mm^2, halogen-free, flame-retardant

Type number	244-904-150

Further cable lengths available upon request.



2 XCBL 421 1.5 m

Power supply cable for the plug-in device 6 XAL 001, 2 poles, 1.5 m (4.92 ft), 0.5 mm², connectors on both sides, halogen-free, flame-retardant

Type number	244-902-151

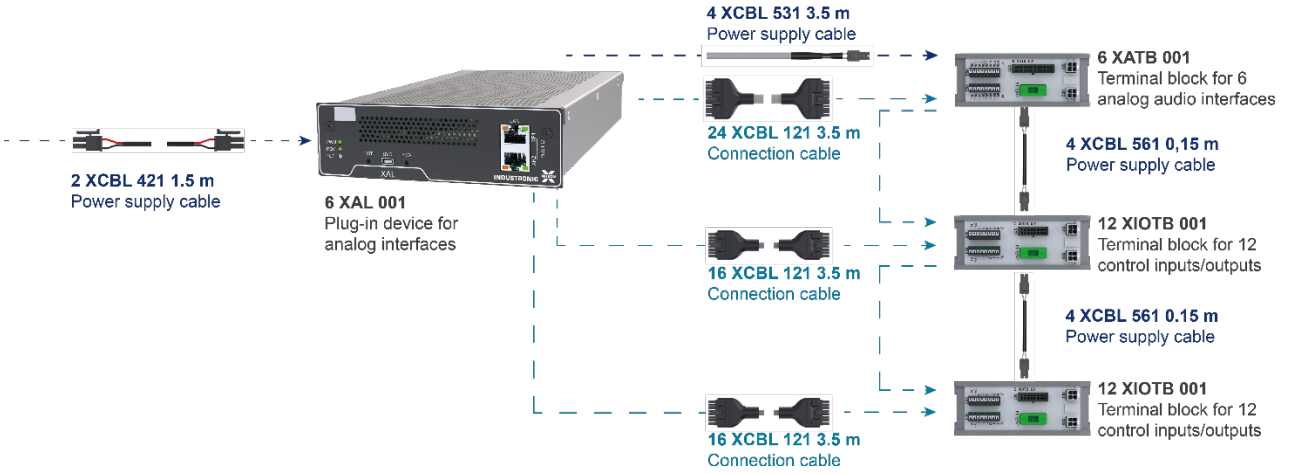
Further cable lengths available upon request.

PREFERRED MODULES

PMOD 6 XAL 001/1

Plug-in device incl. 3 terminal blocks and connection cables for up to 6 analog audio interfaces and 24 control inputs and outputs

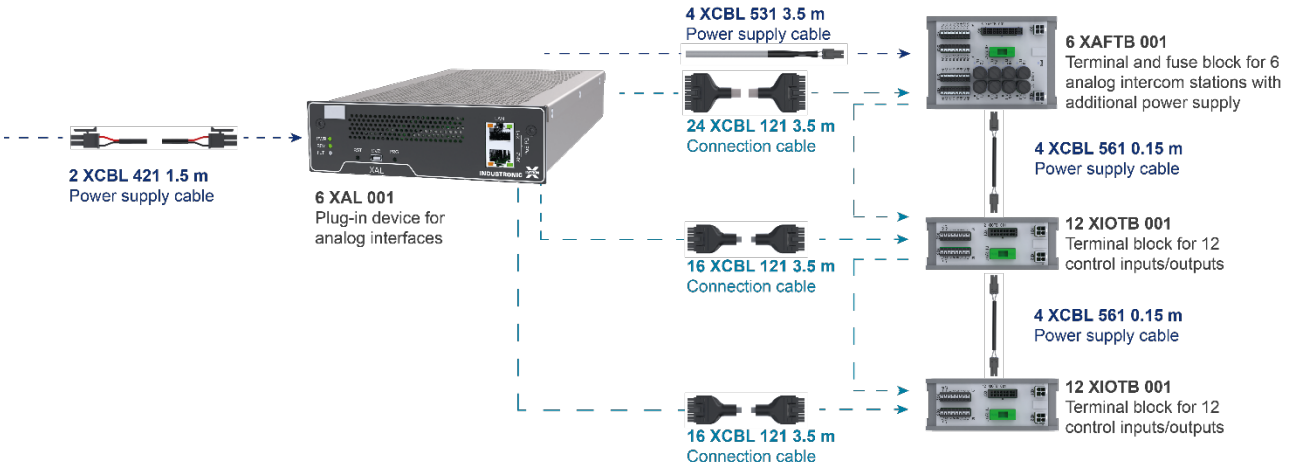
Note: Use PMOD 6 XAL 001/2 for the connection of analog terminal devices which require an additional power supply via further pairs of wires.



PMOD 6 XAL 001/2

Plug-in device incl. 3 terminal blocks and connection cables for up to 6 analog intercom stations with a total of 24 control inputs and outputs

This module enables additional power supply for analog terminal devices via further pairs of wires.



OVERVIEW PREFERRED MODULES

	PMOD 6 XAL 001/1	PMOD 6 XAL 001/2
Plug-in device 6 XAL 001	x	x
Terminal block 6 XATB 001	x	
Terminal block 6 XAFTB 001		x
Terminal block 12 XIOTB 001	2x	2x
Cable 24 XCBL 121	x	x
Cable 16 XCBL 121	2x	2x
Cable 2 XCBL 421	x	x
Cable 4 XCBL 531	x	x
Cable 4 XCBL 561	2x	2x
Type number	326-021-001	326-021-002

ACTIVATIONS

Please note: To commission the module, an INDUSTRONIC activation is required!

	ACT-X Interface Device
Description	Activation of one INTRON-X interface plug-in device
Type number	101-100-030

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