

# A721

## Product specifications

Audio, data and dry contacts transceiver over optical fibre

A721 is a fibre optic transceiver with four audio channels, two RS-232, RS-422, RS-485 (2/4w) serial data channels, two dry contacts and three auxiliary channels that can be configured in any of the before mentioned options.

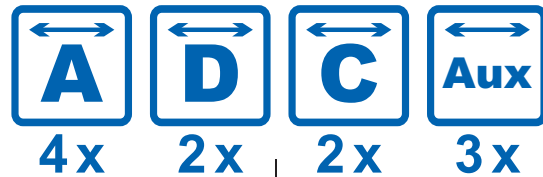
The use of fibre-optic technology in this equipment allows its application in long distance transmission and through hostile electromagnetic environment, thanks to its immunity to this kind of interference.

A721 can be ordered either for two multimode (C version) or singlemode fibres (A version) or for one multimode fibre (CD and DC version).

The flexibility of this unit allows multiple configurations of all the channels, making it the ideal solution in PA systems, interphony, access control, tunnels and, generally, in those installations requiring the transmission of high quality audio (SNR > 80 dB), serial data or contacts.

A721 is available in different formats: module 10TE for P405 housing or stand-alone (optionally with adaptor for DIN rail mounting) and 12 Vdc power supply.

Once installed, it does not require any maintenance operation for its correct working.



Multi-interface transceiver: audio, RS-232, RS-422, RS-485 (2/4w) data and contacts over optical fibre

Versions for multimode or singlemode over 1 or 2 fibres

Suitable for tunnels, PA systems, interphony, access control, etc.

Stand-alone format, for 19" housing or for DIN rail mounting, that eases its installation and maintenance



Audio, data and contacts over optical fibre

**OPTICAL PARAMETERS**

Optical emitter	Low power laser (A version) VCSEL (C, CD and DC versions)
Optical receiver	PIN
Wavelength (note 1)	850 nm (C version) 850 / 1,310 nm (CD version, Tx / Rx) 1,310 / 850 nm (DC version, Tx / Rx)
Type of fibre	1,310 nm (A version) Singlemode (9/125 µm) (A version) Multimode (62.5/125 µm) (C, CD and DC)
Output optical power (note 2)	≥ -4 dBm (A version) ≥ 0 dBm (C version) ≥ -3 dBm (CD and DC versions)
Receiver sensitivity	≤ -28 dBm (A version) ≤ -20 dBm (C, CD and DC versions)

**ELECTRICAL PARAMETERS**

Transmitted signals	4 x bidirectional audio 2 x RS-232/422/485 data 2 x bidirectional dry contacts 3 x configurable expansion channels
Type of audio signal	20 Hz - 20 KHz 0 dBm nom., +10 dBm max.
Resolution / Sampling frequency	24 bits / > 55 kHz
Signal to noise ratio (weighed)	≥ 80 dB
Input impedance (see note 1)	600 Ω balanced (optionally high)
Output impedance (see note 1)	Low impedance (optionally 600 Ω balanced)
Type of data signal (user config.)	RS-232, RS-422, RS-485 (2 or 4w)
Maximum binary rate	>128 kbit/s (RS-232/422) >19.2 kbit/s (RS-485)
Type of input / output contact	Active by earth closing / dry contact

**POWER PARAMETERS**

Power requirements	12 Vdc (stand alone format) Internal (rack mount format)
Consumption (see note 1)	< 6 W

**MECHANICAL PARAMETERS**

Available formats	Stand-alone Plug-in module for 19" housing 3U high
Dimensions (without connectors)	160 x 130 x 65 mm box (stand-alone) 10 TE module, 160 mm deep.
Optical connector	2 x FC/PC (A version) 2 x ST (C version), 1 x ST (CD and DC)
Electrical signals connector	8 x RJ-45

**ENVIRONMENTAL CONDITIONS**

Operating temperature range	-40 °C to +74 °C
Humidity range	0 to 95% without condensation

**INDICATORS**

ON	Unit in operation
APO	Absence of input optical power
2, 4 upper	Audio – excessive input signal
2, 4 lower	Audio + excessive input signal
6, 8 upper	Data transmission
6, 8 lower	Data reception
1 upper	Output relay 1 closed
1 lower	Output relay 2 closed
3, 5, 7 upper and lower	Configurable channels
Note 1.-	Typical values, as production average
Note 2.-	Typically, 4 dB less of emitted optical power in C version with 50/125 µm fibre

**Ordering information: A721X-Y:**

X – Type of fibre and wavelength	Y – Mechanical format
<b>A</b> - Singlemode fibre, wavelength = 1,310 nm	<b>SA</b> – Stand alone format, 12 Vdc
<b>C</b> - Multimode fibre, wavelength = 850 nm	<b>RM</b> – Format for 19" rack mounting (set by default)
<b>CD</b> - Multimode fibre, wavelength = 850 / 1,310 nm (Tx / Rx)	<b>DIN</b> – Stand alone format with adaptor for DIN rail mounting
<b>DC</b> - Multimode fibre, wavelength = 1,310 / 850 nm (Tx / Rx)	

**Associated equipment:**

Model	Description
A19XA	Auxiliary audio channel. Plug-in card for A721 model
A19XC	Auxiliary contacts channel. Plug-in card for A721 model
A19XD	Auxiliary data channel. Plug-in card for A721 model
P405	19" housing for up to 6 A721 units
FA220/12	12 Vdc / 800 mA power supply

**Optical budget and maximum link distances:**

Link	Optical budget	Distance <sup>(3)</sup>	Link conditions
A721A – A721A	24 dB	50 Km	Singlemode fibre (10/125 µm). Wavelength = 1,310 nm
A721C – A721C	20 dB	5,0 Km	Multimode fibre (62.5/125 µm). Wavelength = 850 nm
A721CD – A721DC	17 dB	4,0 Km	Multimode fibre (62.5/125 µm). Wavelength = 850 / 1,310 nm

Note 3.- The recommended link distances are calculated considering typical values of the fibre already installed

