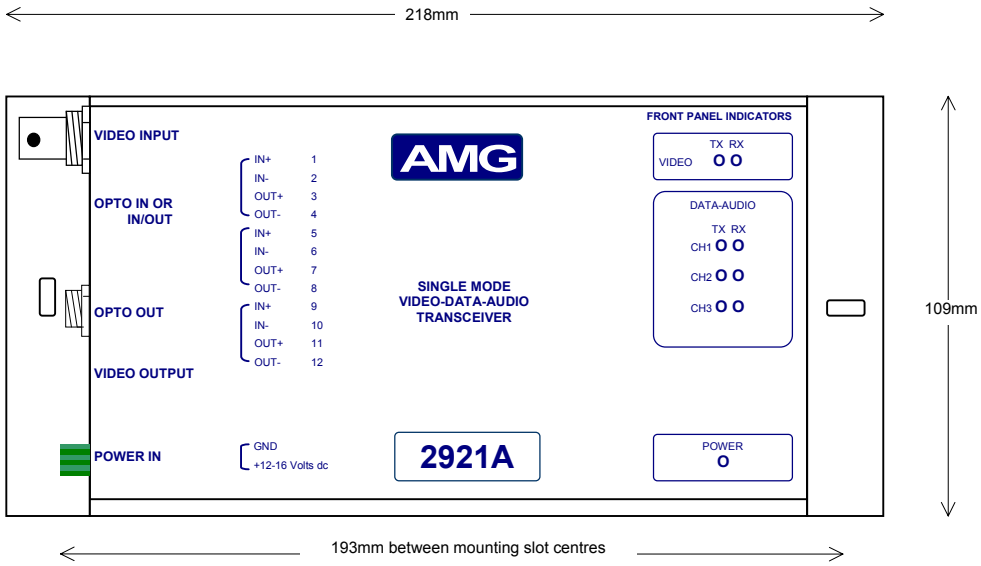
AMG2921A
Instruction Sheet

AMG2923A Standalone Single Channel Video, RS422/485 and Two Contact Closure Channel Fibre Optic Transceiver for use on Singlemode Optical Fibre



The AMG2923A transmits a single video signal over a singlemode optical fibre. It also transmits and receives one bi-directional RS422/485 data signal and two bi-directional contact closure signals over the same fibre. It is designed to operate with an AMG2922A or an AMG2922AR Video Receiver.

Video Input Connection

Connectors ..... 75 ohm BNC Socket.
Input Impedance..... 75 ohm terminated.
Input Level ..... 1 volt p-p nominal (+3dB overload).
Frequency Response..... 10Hz to 5.75MHz min.

Optical Connection

Connector ..... single FC/PC Style
Launch Power..... -10dBm
Wavelength..... 1550nm nominal.

Optical Sensitivity..... -30dBm
Wavelength..... 1310nm nominal.

Power Connection

Power Supply ..... +12 volts d.c. to +16 volts d.c. at 300mA
Connector ..... Removable screw terminal connector (3.5mm spacing)
See equipment label for connection details

Data Connections

Data Connector..... 12 way removable screw terminal connector (3.5mm spacing)

The RS422/485 Channel transmits and receives on channel 1 using pins 1 to 4 as shown below. Channel 2 and 3 are used to transmit and receive contact closure signals

Channel	Pin No.	Pin Description
1	1	RS422/485 IN+
	2	RS422/485 IN-
	3	RS422/485 OUT+
	4	RS422/485 OUT-
2	5	Contact A In
	6	Contact A In Common
	7	Contact A Out
	8	Contact A Out
3	9	Contact B In
	10	Contact B In Common
	11	Contact B Out
	12	Contact B Out

See daughter below for RS422/485 configuration.

Contact In relies on a volts free contact closure between Contact In and Contact In Common. Contact In Common is connected to ground. Contact In has a +bias applied by the equipment.

Contact Out is a volts free isolated relay driven output contacts.

Dimensions

Height..... 109mm
Width..... 218mm
Depth 39mm

Mounting Details

The AMG2921A is designed to mounted onto a panel via the two mounting slots of 4.5mm x 10mm.

Indicators

Power.....Green – unit powered
Off – no power applied to unit

Video TX.....Green – video signal present in video input BNC
Off – no video present on video input BNC

Video RX.....Red/Green – optical connection to AMG2924A(R) OK
Off – optical loss to AMG2924A(R) too high

Data - Channel 1, 2 and 3

TX .....Green – logic one present on the corresponding data input
Red – data transitions on the corresponding data input
Off – logic zero present on the corresponding data input

This represents the data signals being transmitted on the optical fibre

RX .....Green – logic one present on the corresponding data output
Red – data transitions on the corresponding data output
Off – logic zero present on the corresponding data output

This represents the data signals being received on the optical fibre

Configuration of the RS422/485 Data Channel

The RS422/485 data channel can operate in two modes:

Mode 1 – RS422 four wire full duplex transmission. In this mode the AMG2923A will transmit a tristate condition as well as logic high and low for systems which require bus-ing of the RS422 four wire connection.

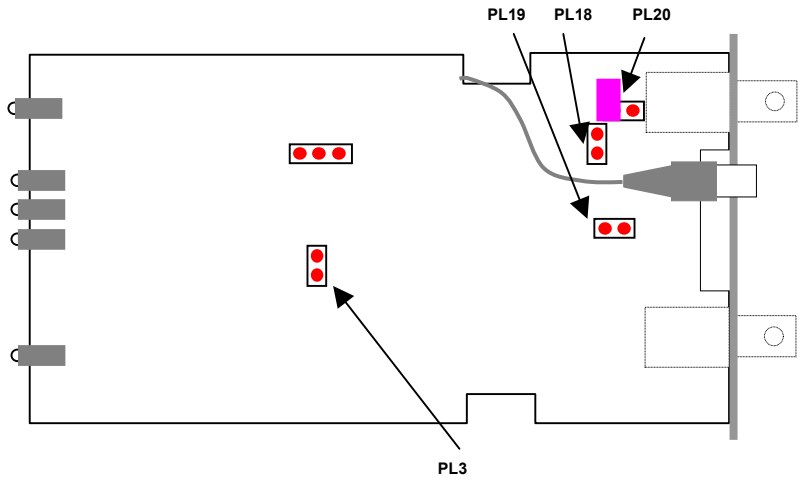
Mode 2 – RS485 two wire half duplex transmission.

MODE	Configuration Details	PL3	PL18	PL19
1	RS-422 4 wire Point-to-Point - Not for Rs-422 BUS system	No	No	No
1	Rs-422 4 wire BUS systems	No	No	No
2	RS-485 2 wire BUS	Yes	Yes	Yes

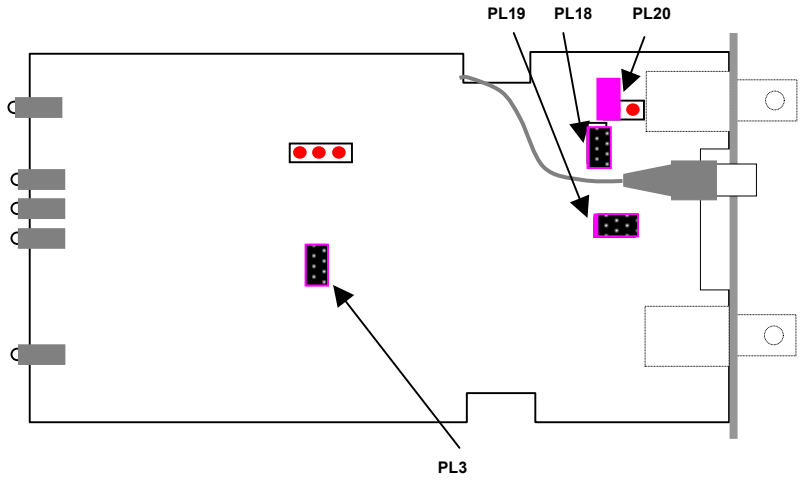
Selection the mode of operation is done with jumpers PL18, PL19 and PL3. When JP20 is fitted the data input connection is 120ohm terminated. When used in RS485 mode or in a RS422 BUS system mode, in order to detect the tristate condition (regarded as a differential bus voltage of less than 0.5 volts) on the input ***the AMG2923A requires that the bus must be terminated either externally or with the internal jumper***. If several data inputs are connected in parallel, the 120ohm termination should only be fitted once.

Unless otherwise requested the 2923A is set up for RS485 two wire operation unterminated on leaving the factory.

MODE 1 – RS422 4 Wire Operation Jumper Settings:



MODE 2 – RS485 2 Wire Operation Jumper Settings:



Removal of Main PCB
Remove the main PCB from the housing as follows:
Note:- The 2900's PCB is static sensitive. Handle it with proper care and normal electrostatic Discharge (ESD) procedures. Use properly grounded protection (for example, wrist stamps) when handling the PCB.

1.1. Loosen and remove the two screws on the top and bottom of the unit's rear panel.
1.2. Ensure that the optical fibre is not trapped.
1.3. Slide the rear panel out.
1.4. The PCB is attached to the rear panel.

When re-inserting the main PCB into the housing take care not to trap the optical fibre.
Fasten the rear panel with the screws.

Safety
The 2921A series of products uses a Class 1 laser system in accordance with EN 60825-2:2000.

However it is always advisable to follow good practice when working with optical fibre systems. This includes:

- Do not stare with unprotected eyes or with any unapproved collimating device at fibre ends or connector faces, or point them at other people.
- Use only approved filtered or attenuating viewing aids

For other safety issues and advice on good practice associated with the optical fibres systems see EN 60825-2:2000 or your local safety officer.

There are no user servicable parts within the AMG2921A.
In case of problem or failure contact your local support centre or AMG Systems Ltd, Technical Support Department on tel. +44 (0) 1767 600777.

See product data sheet for full specification.