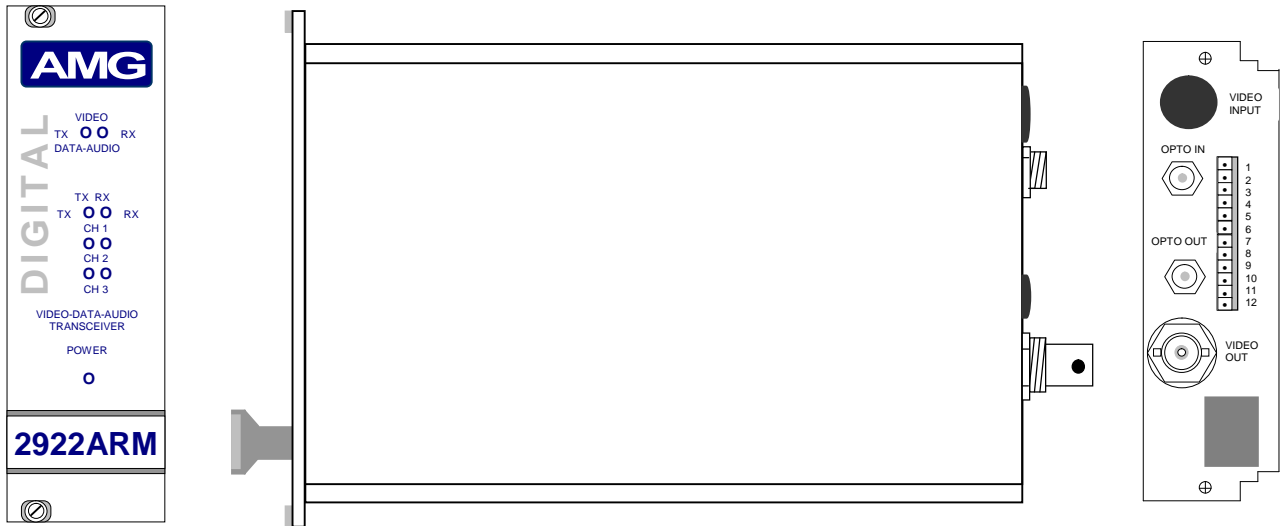




# AMG2922ARM Instruction Sheet

**AMG2922ARM Rackmount Single Channel Video with RS422/485 Data and Two Contact Closure Fibre Optic Transceiver for use on two Multimode Optical Fibres**



The AMG2922ARM receives a single video signal and transmits and receives one bi-directional RS422/485 data signal and two bi-directional contact closure signals over two multi-mode fibres. It is designed to operate with an AMG2921AM or an AMG2921ARM Video Transmitter.

### Video Output 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

#### Opto Output

- Connector ..... ST Style
- Launch Power..... -10dBm
- Wavelength..... 1310nm nominal.

#### Opto Input

- Connector ..... ST Style
- Optical Sensitivity ..... -30dBm
- Wavelength..... 1310nm nominal.

## Power Connection

Power Supply ..... from plug in connection on AMG2005 subrack

## 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 data 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 ..... 3U Plug-in

Width..... 7HP

Depth ..... 170mm excluding connectors

## Mounting Details

The AMG2922ARM is designed to mounted in the AMG2005 Subrack or equivalent

**Indicators**

- Power.....Green – unit powered
- Off – no power applied to unit
  
- Video TX.....Not Used
  
- Video RX.....Green – video present on output
- Red/Green – optical connection to AMG2923A(R)M is OK but no video being received
- Off – optical loss to AMG2923A(R)M is 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 AMG2922ARM will transmit a tristate condition as well as logic high and low for systems which require biasing of the RS422 four wire connections.

Mode 2 – RS485 two wire half duplex transmission.

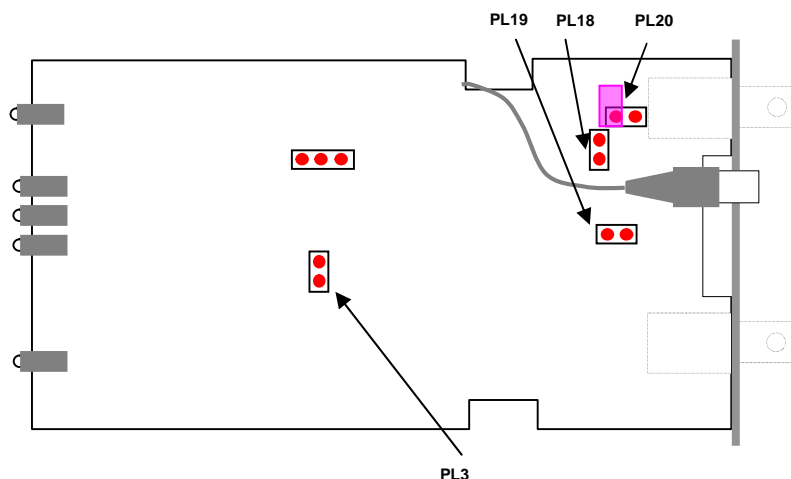
<b>MODE</b>	<b>Configuration Details</b>	<b>PL3</b>	<b>PL18</b>	<b>PL19</b>
1	RS-422 4 wire Point-to-Point - Not for Rs-422 BUS system	No	No	No
1	Rs-422 4 wire BUS systems	No	No	No
2	RS-485 2 wire BUS	Yes	Yes	Yes

Selection the mode of operation is done with jumpers PL18, PL19 and PL3. When JP20 is fitted the data input connection is 120ohm terminated.

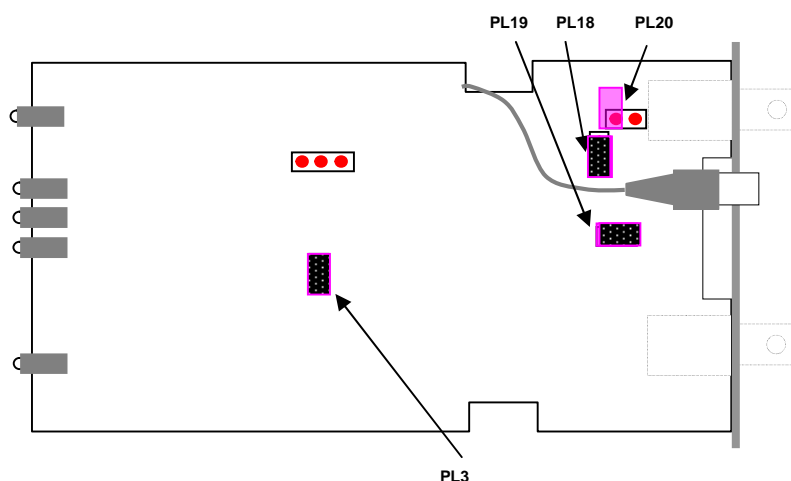
When used in RS485 mode or in a RS422 BUS system mode, in order to detect the tristate condition (regarded as a differential bus voltage of less than 0.5 volts) on the input *the AMG2922ARM requires that the bus must be terminated either externally or with the internal jumper*. If several data inputs are connected in parallel, the 120ohm termination should only be fitted once.

Unless otherwise requested the 2922ARM is set up for RS485 two wire operation un-terminated 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 2900A 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 serviceable parts within the AMG2922ARM.

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 unit data sheet for full specification.