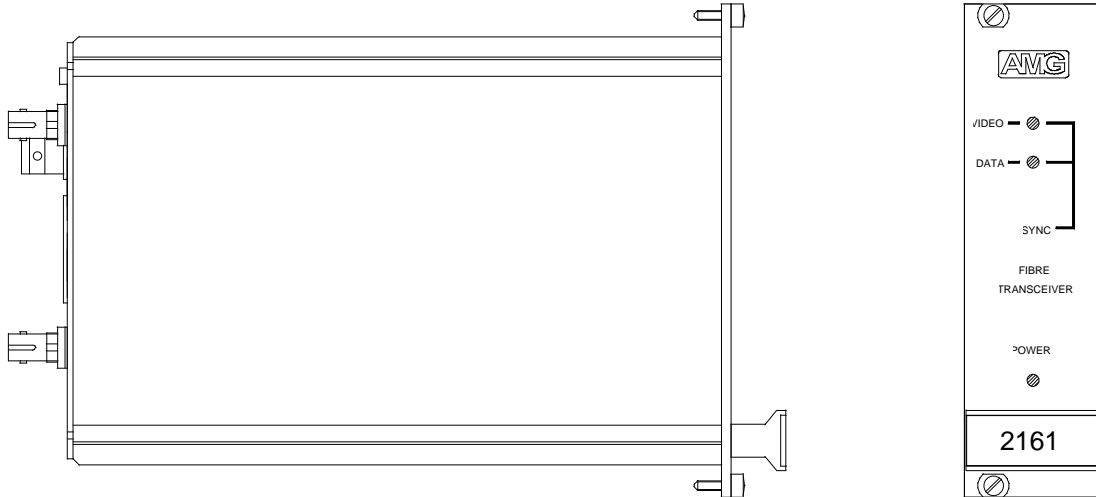




# AMG2161L Instruction Sheet

## AMG2161L 1300nm Rackmount Video Transmit + Bi-directional RS422/RS485 Data



### Video Connection

Connectors ..... 75 ohm BNC Socket.  
Input Impedance ..... 75 ohm terminated.  
Input Level ..... 1 volt p-p nominal.  
Frequency Response ..... 10Hz to 6MHz min.

### Optical Connection

Connectors ..... ST Style (2 off)  
Opto Out Launch Power  
50/125 ..... -20dBm. min.  
62.5/125 ..... -17dBm min.  
Wavelength ..... 1300nm nominal.

### Data Connection

Connector ..... Push-in connector strip - 11way  
(Solid conductors  $0.5\text{mm}^2$  (20 awg) can be connected by simply push fitting into the appropriate connection hole. Smaller conductors and wires (up to  $0.5\text{mm}^2$ , 20 awg) are inserted into the connection space whilst depressing the orange lever. Wire or conductors should be stripped back to a length of 11mm. Use a small screwdriver to depress the orange lever to release the connection.)

Pinout ..... See Below – Note Pins number from the bottom of the unit

Pin No.	Function	
1(bottom)	N/C	
2	N/C	
3	N/C	
4	N/C	
5	Power Ground	
6	Auxiliary Power Input ( +12v to +18v dc )	
<b>Data Interface</b>	<b>RS485 (2 wire)</b>	<b>RS485/422 (4 wire)</b>
7	Data Ground	Data Ground
8	Data I/O (A)+	Data In (A)+
9	Data I/O (B)-	Data In (B)-
10	Data I/O (A)+	Data Out (A)+
11	Data I/O (B)-	Data Out (B)-

### Dimensions

Height ..... 3U  
 Width ..... 7HP  
 Depth ..... 205mm

### Mounting Details

The AMG2161L plugs into and is powered from the AMG2000 Subrack

### Indicators

Power ..... Green – lit when unit powered  
 Video Sync ..... Green – lit when video signal present BNC input.  
 Data Sync ..... Green – lit when data channel present.  
 (Note: this does not indicate the presence of actual data)

### RS422/485 Configuration

Due to the number of options for RS422 and RS485 operation the AMG2161L has to be configured by the use of jumpers JP3 and JP4 on the PCB. The circuit board assembly is removed by removing screws A and B on the rear panel and sliding the assembly out of the case. Note the pin numbers are lowest at the bottom of the board (with the connectors to the right).

**RS485 2 wires** - The data out transmitter is controlled by the presence of data coming in from the optical fibre. The transmitter is normally off. Incoming data on the optical fibre will turn on the transmitter and it will be held on until all the data has been transmitted. When the transmitter is enabled the receiver is disabled. JP 4 should be set up to match the data rate and determines the delay between the end of the data transmission and the transmitter being disabled is:

Data Rate	JP 4 Setting	Delay
74kbits/s	1-2	50µs
19.2kbits/s	3-4	625µs
9.6kbits/s	5-6	1.25ms
4.8kbits/s	7-8	2.5ms
N/A	<b>9-10</b>	<b>5µs</b>

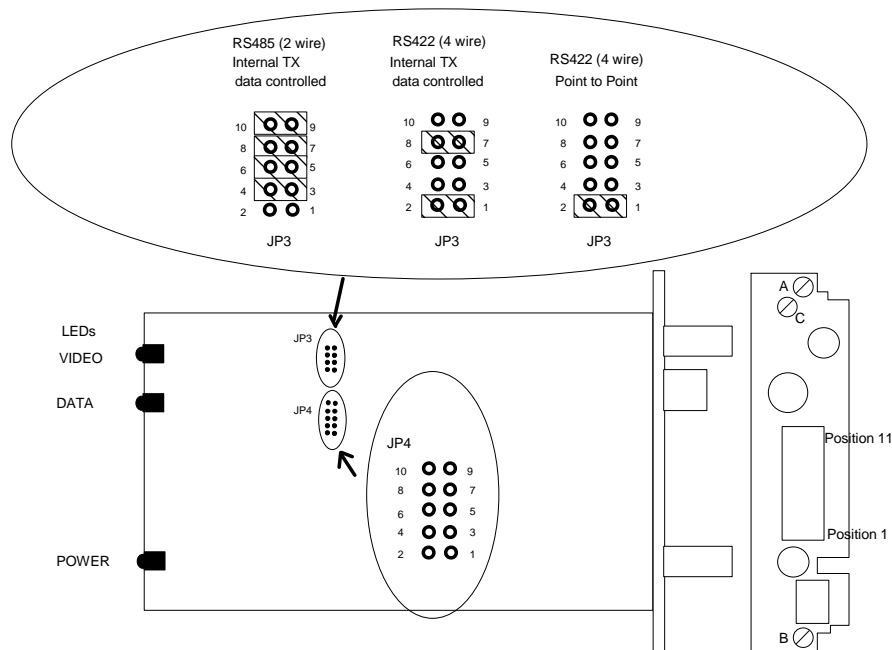
**RS422 4 wire** operation has two modes of operation as follows:

**Point-to-Point** - In this mode the data out transmitters and the data in receivers are permanently enabled.

**Multi-drop** - The data out transmitter is controlled by the presence of data coming in from the optical fibre as per RS485 operation.

**120 ohm termination** - If the line is required to be terminated then a jumper should be fitted between pins 1 and 2 of JP 3.

The jumper settings for the AMG2161L are as illustrated:



Unless specifically specified to the contrary all units are shipped set up as RS485 and the 5us TX dwell time as below.

Position	JP 3 Factory Setting	JP 4 Factory Setting
1-2	OFF	OFF
3-4	ON	OFF
5-6	ON	OFF
7-8	ON	OFF
9-10	ON	ON