

**APPLICATIONS**

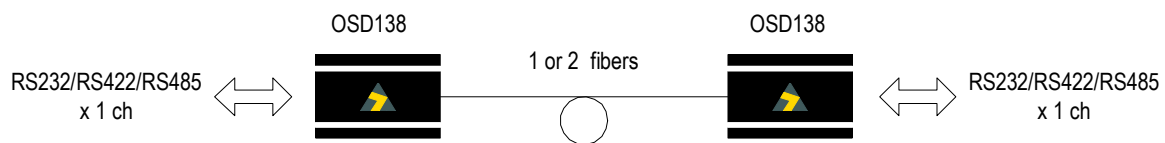
- ▲ Long distance RS422, RS232 or RS485 links
- ▲ Links requiring a module at one end and a card at the other
- ▲ Secure, noise immune government and industrial communications



**FEATURES AND BENEFITS**

- ▲ Multi-protocol operation
- ▲ 2 and 4-wire RS485, TTL, RS422, Manchester, Biphase or RS232 operation
- ▲ Extends link lengths to 5km on multimode and over 100km on singlemode fiber
- ▲ Full duplex, asynchronous, DC to 1Mbps
- ▲ Plugs directly into the OSD370 standard chassis
- ▲ ST optical connectors standard
- ▲ Safe transmission in hazardous environments
- ▲ More secure than copper cables
- ▲ Robust and reliable

**TYPICAL APPLICATION DESIGN**



**ORDERING INFORMATION**

OSD138	Fiber Optic RS232/RS485/RS422/TTL Transceiver Card
OSD138L	1300nm singlemode version
OSD138.WA	1 multimode fiber version (Tx:850nm, Rx:1310nm)
OSD138.WB	1 multimode fiber version (Tx:1310nm, Rx:850nm)
OSD138L.WA	1 singlemode fiber version (Tx:1310nm, Rx:1550nm)
OSD138L.WB	1 singlemode fiber version (Tx:1550nm, Rx:1310nm)
Option C	Module version



# SPECIFICATIONS

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## PERFORMANCE

Data rate DC to 1Mbps NRZ  
Pulse Distortion and Jitter  $<\pm 0.3\mu\text{S}$  over full dynamic range

## OPTICAL SIGNAL

Wavelength OSD138: 850nm  
OSD138L, OSD138L.WA: 1310nm  
OSD138L.WB: 1550nm

Coupled Transmit Power -18 to -15dBm peak into 62.5/125 multimode fiber  
-18 to -15dBm peak into 10/125 singlemode fiber (OSD138L, OSD138L.WA, OSD138L.WB only)

Receiver Sensitivity  $<-37\text{dBm}$  peak for  $1 \times 10^{-9}$  BER

Optical Link Budget  $>19\text{dB}$  at 850nm ( $>5\text{km}$  of multimode fiber for OSD138)  
 $>19\text{dB}$  at 1300nm, 1550nm ( $>50\text{km}$  of singlemode fiber for OSD138L, OSD138L.WA, OSD138L.WB)

Receiver Saturation  $>-12\text{dBm}$  peak

## ELECTRICAL SIGNAL

Input User selectable between RS422/RS485 levels, TTL on the + input with - input floating or RS232 levels

User Controls A 6-way user adjustable lever switch controls:  
RS422/RS232 or RS485  
RS232 polarity  
2-wire or 4-wire RS485  
RS485 bias on/off  
RS485 turnaround times

## PIN CONFIGURATION

Pin 1	Data Input or I/O+	(To OSD138)	Pin 5	Data Output -	(From OSD138)
Pin 2	Data Input or I/O -	(To OSD138)	Pin 6	RS232 Input	(To OSD138)
Pin 3	Ground		Pin 7	RS232 Output	(From OSD138)
Pin 4	Data Output +	(From OSD138)	Pin 8	Ground	

## PHYSICAL

Electrical Connectors 9 pin male subminiature D connector for power on card  
2 way terminal block with screw clamps for power on module  
8 way terminal block with screw clamps for data

Optical Connector ST standard

Operating Temperature  $-20$  to  $+75^\circ\text{C}$

Relative Humidity 0 to 95% non-condensing

Power Requirements  $+11$  to  $+35\text{VDC}$  or  $22$  to  $28\text{VAC}$  @  $1.8\text{VA}$

Weight 150g (card)  
280g (module)

Dimensions(mm) 208D x 25W x 100H (card)  
104D x 104W x 25H (module)

Chassis Current Consumption (CCC) 0.15 Amp