



## Long Range Series

**Redline 52FM**  
**Redline 155FM**  
**Redline 1250FM**

The Redline Long Range Series of FSO products provides transmission over long distances while maintaining robust operation and carrier class availability. Our Long Range FSO series is the product of choice when you require the extra distance covering the full spectrum of transmission rates from 10 Mbps to 1448 Mbps. The Redline Long Range Series is ideally suited for the following applications:

- Ethernet data connectivity
- Fast Ethernet data connectivity
- Gigabit Ethernet data connectivity
- Voice Over IP connectivity
- IP video connectivity

### SPECIFICATIONS OF THE REDLINE LONG RANGE SERIES PRODUCTS

REDLINE 52FM	
Transmission rates	10-68 Mbps (data rate transparent)
Transmission standards	Ethernet (10Mbps)
Interface options	10 Base-T
<b>Deployment Range:</b>	
3db/km = Light rain (5-10mm/hr) - Light haze - Scintillation	4400 m (14436 ft)
5db/km = Medium to heavy rain (15-20mm/hr) - Haze	3200 m (10499 ft)
10db/km = Heavy rain to cloudburst (45mm/hr) - Light snow - Light fog	2000 m (6562 ft)
17db/km = Cloudburst (100mm/hr) - Medium snow - Light fog	1370 m (4495 ft)
30db/km Extreme rain (135mm/hr) - Blizzard - Medium fog	900 m (2953 ft)
REDLINE 155FM	
Transmission rates	31-180 Mbps (data rate transparent)
Transmission standards	Fast Ethernet (100Mbps)
Interface options	100 Base-LX10, 100 Base-T
<b>Deployment Range:</b>	
3db/km = Light rain (5-10mm/hr) - Light haze - Scintillation	4200 m (13780 ft)
5db/km = Medium to heavy rain (15-20mm/hr) - Haze	3070 m (10072 ft)
10db/km = Heavy rain to cloudburst (45mm/hr) - Light snow - Light fog	1940 m (6365 ft)
17db/km = Cloudburst (100mm/hr) - Medium snow - Light fog	1330 m (4364 ft)
30db/km Extreme rain (135mm/hr) - Blizzard - Medium fog	880 m (2887 ft)
REDLINE 1250FM	
Transmission rates	100-1448 Mbps (data rate transparent)
Transmission standards	Gigabit Ethernet
Interface options	1000 Base-LX, 1000 Base-T
<b>Deployment Range:</b>	
3db/km = Light rain (5-10mm/hr) - Light haze - Scintillation	3900 m (12795 ft)
5db/km = Medium to heavy rain (15-20mm/hr) - Haze	2870 m (9416 ft)
10db/km = Heavy rain to cloudburst (45mm/hr) - Light snow - Light fog	1830 m (6004 ft)
17db/km = Cloudburst (100mm/hr) - Medium snow - Light fog	1270 m (4167 ft)
30db/km Extreme rain (135mm/hr) - Blizzard - Medium fog	840 m (2756 ft)

### MECHANICAL / ELECTRICAL / ENVIRONMENTAL

Laser output power	640 mW
Receive aperture	20 cm (8 in), effective clear
Operating temperature	-40°C to 60°C
Environmental seal	Water and dust tight, IP66
Dimensions (WxHxD)	41 cm x 41 cm x 46 cm (16 in x 16 in x 18 in)
Weight of head	20 kg (44 lbs)
Input voltage	40 to 57 VDC or 100 to 240 VAC
Power consumption	55 watt (Heaters 200 watt)



## Long Range Series

The Redline Long Range Series consists of the following products:

### Redline 52FM:

Long Range FSO with deployment range of up to 4400 m and transmission rate of 68 Mbps

### Redline 155FM:

Long Range FSO with deployment range of up to 4200 m and transmission rate of 180 Mbps

### Redline 1250FM:

Long Range FSO with deployment range of up to 3900 m and transmission rate of 1448 Mbps

#### FIBER-OPTIC INTERFACE

Interface type 1310 nm, Single-mode fiber, SC connectors

#### ELEMENT MANAGEMENT AND CONTROL

Management interface	RS 232 (DB9 connector), Ethernet (100 Base-T connection)
SNMP	V.1 Agent
Installation control program	Terminal Craft Program
Management control	3rd party SNMP managers
Key parameters monitored	Receive signal strength, Power supply current and voltage, Laser powers, Laser temperature, Internal temperature

#### CERTIFICATIONS AND CLASSIFICATIONS

Laser safety	IEC 60825-1 Class1M
Electrical and EMC	EN 55024, EN 60950, EN 55022

#### ORDERING INFORMATION

	Part Number
<b>FSO Terminals</b>	
Redline 52FM: Long Range FSO Transceiver	FM-LK-52
Redline 155FM: Long Range FSO Transceiver	FM-LK-155
Redline 1250FM: Long Range FSO Transceiver	FM-LK-1250
<b>Power Supplies</b>	
Power Supply: 100-240 VAC option for Long Range Series	FM-PSU-240
<b>Interfaces</b>	
Intelligent 1000 Base-T to 1000 Base-FX (Single-mode SC Fiber Convertor 1300nm)	TFC-1000S20
<b>Management</b>	
SNMP Option for Long Range Series	FM-MAN-SM
<b>Installation Tools</b>	
Installation kit (per terminal)	FM-IT-IK
Cabling kit (per terminal)	FM-IT-CK
Alignment tool kit	FM-IT-ATS