

Direct GPS-over-Fiber – MAC 8-1 Link G3



Features

- Uses fiber optic cable to distribute both power and signal.
- Allows for greater distance of up to 7 km between antenna and receiver system.
- Less hardware due to the antenna integrated GPS-over-Fiber transmitter in addition to a portfolio of various expansion and receiver modules allows futureproof scalability of timing infrastructure and eliminates the need for multiple GPS antennas on the roof.
- NEBS Level 3 carrier grade

[External document](#)

Electrical Data

Parameters			Value			Remarks
			min.	typ.	max.	
GNSS band				L1		
Equivalent active antenna preamplifier gain		dB		25		optical path loss not included
Gain flatness		dB		< 2		
Noise figure		dB		6.5		
VSWR (RF output)				< 1.8		
Time delay ¹		ns		45		optical path delay not included
Supply voltage	receiver	VDC	+8	+12	+48	1.2 A typ. at 12V
Temperature range	operating	°C	-5	+55		antenna: - 20 .. +70 °C
	storage	°C	-40	+75		
Module weight		kg	2.5			receiver (indoor unit)
Module dimensions – transmitter		mm	160 height, 120 diameter			
Module dimensions – receiver		mm	482.6 × 286 × 43.65			19" 1RU
RF connector (output)			8x SMA female			

¹ Total link time delay calculation Total delay [ns] = time delay TX [ns] + time delay RX [ns] + Time delay single mode fiber 1310nm [ns/m] * link length [m]. Example 100m link delay = 45ns + 100m * 4.9 ns/m = 535 ns

Optical Data

Parameters		Value			Remarks
All specifications at 25 °C case temperature unless otherwise specified		min.	typ.	max.	
Laser class		4			
Fiber optic connector (input)		Q-ODC-12			
Fiber optic connector (output)		LC/UPC			
Fiber		standard single mode 9/125 um			
Optical power in fiber – signal	mW	2			
Optical power in fiber – power	mW	500			
Side mode suppression ratio	dB	30	40		

Order Information

Item Description	Item Number
Direct GPSoF - MAC8-1 KIT (RX+TX)	85134673
Direct GPSoF (TX)	85077810
Direct GPSoF - MAC8-1 (RX)	85128283