

Optical Wavelength Locker OWL-10

The OWL-10 wavelength locker enables the wavelength of DWDM transmitters to be monitored and stabilized. Santec's unique single filter differential method is utilized to achieve the highest wavelength accuracy and reliability of any commercial wavelength locking device. The OWL-10 has become the industry standard and is indispensable in 50GHz and 100GHz DWDM systems.

Features

- ▶ Unique differential method using high performance optical filter
- ▶ Passive (no moving parts, no power supply required)
- ▶ Suitable for any wavelength in the C & L bands
- ▶ Temperature insensitive @ 0~70°C (by thermal compensation)
- ▶ Wavelength accuracy $< \pm 0.01\text{nm}$
- ▶ Hermetically sealed to ensure long term stability
- ▶ Small package (40 x 21 x 8 mm)
- ▶ Qualified to Telcordia GR-468
- ▶ PM fiber option available

Applications

- ▶ LD wavelength locking for DWDM transmitters.
- ▶ Wavelength monitoring in DWDM transmission systems.
- ▶ Wavelength management for DWDM wavelength router or OADM.
- ▶ Light source stabilization for optical information, sensing and other measurement applications.

Typical Configuration

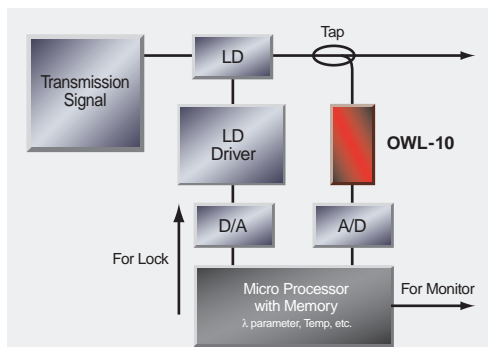
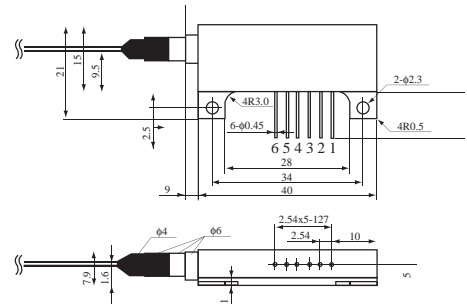


Fig.1 Application diagram of wavelength locking or monitoring of the transmitter LD.



Dimensions



• Electrical pin assign

- | | |
|-----------------------|-----------------------|
| 1. PD1 anode (+) | 4. Temp. sensor +Vs |
| 2. PD2 anode (+) | 5. Temp. sensor +Vout |
| 3. Common cathode (-) | 6. Temp. sensor GND |

■ Optical Specifications

Parameter	Units	Premium	Standard	Notes
Principle	-	Differential method using thin-film optical filter		
Center Wavelength	-	ITU - grid or as specified		
Capture Range	nm	± 0.25		
Long Term Stability (A)	nm	<±0.005	<±0.015	over 20 years
Polarization Dependence (B)	nm	<±0.005		
Overall Wavelength Accuracy (A)+(B)	nm	<±0.01 ^{*1}	<±0.02 ^{*1}	over 20 years
Optical Input Power	dBm	<5		

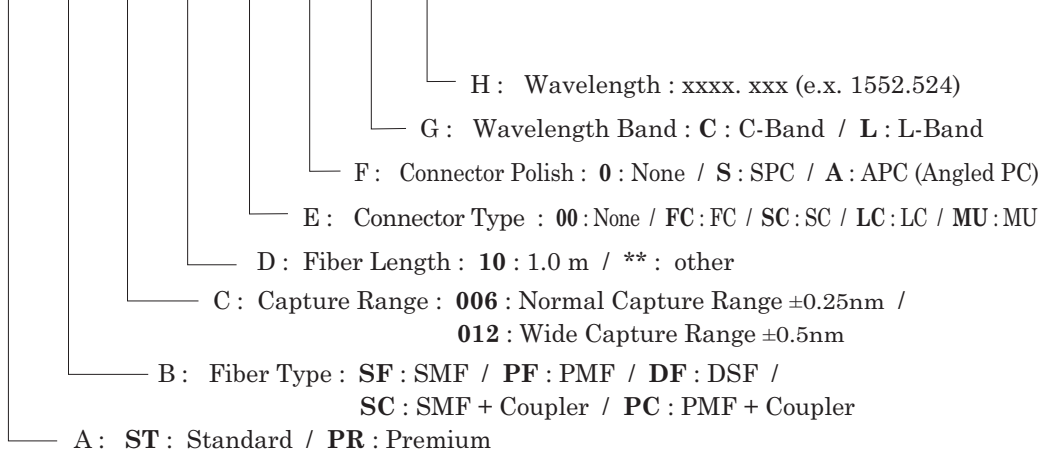
*1 with digital temperature compensation

■ Electrical and Mechanical Specification

Type	Units	Performance	Notes
Conversion Gain	A/W	>0.2	at λs
Photo Current Ratio	-	0.4 to 2.0	0 to +70°C
PD Dark Current	nA	<15	
Temperature Sensor	-	Built-in	
Package	-	Hermetically sealed	
Pigtailed Fiber	-	SMF-28 (G.652), 0.9Ø, 2m, FC - SPC	
Operating Temperature	°C	0 to +70	< 90 % humidity
Storage Temperature	°C	-40 to +80	< 90 % humidity
Reliability	-	Telcordia GR-468-CORE qualified, 100 fits max. at 25 years	
Size	mm	40 x 21 x 8	
Weight	g	50	

■ Ordering Code

OWL-10 - [A] - [B] - [C] - [D] - [E] - [F] - [G] / [H]



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