



IQReceiver-1002

# IQReceiver™

## High Performance Coherent Optical Receiver

### SPEC SHEET

Gold standard coherent receiver for the measurement of coherent modulation formats such as QPSK, 64QAM and OFDM.

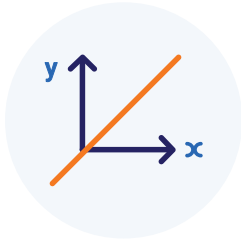
- Dual polarization
- Supports DP-QPSK, DP-16QAM and a variety of other PSK and QAM formats and custom formats
- Narrow linewidth internal laser
- Single ended RF outputs

# Features



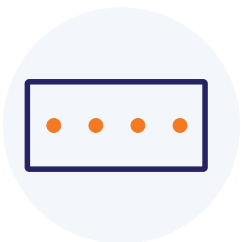
## High-performance, low-noise coherent receiver

IQReceiver™ is the gold standard coherent receiver with market-leading performance. It is designed and built using the highest-performing discrete fiber optic components to provide superior fidelity measurement of coherently modulated signals. To minimize noise, IQReceiver does not use a transimpedance amplifier (TIA), a component often found in commercially available ICRs.



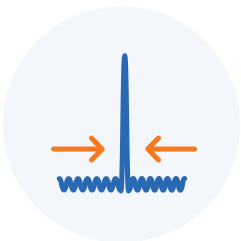
## Dual polarization measurement

IQReceiver houses polarization selective hardware to characterize polarization multiplexed signals. LO input, signal output and internal laser outputs all use polarization maintaining (PM) fiber for the highest versatility.



## Four single-ended outputs

Designed to be used with any real-time oscilloscopes with sufficient bandwidth and sampling rate, the single-ended outputs make it convenient to pair with the four input channels of most oscilloscopes. In high-bandwidth oscilloscope configurations where there are only two channels per unit, IQReceiver's slim profile and wide footprint enable it to be placed between multiple oscilloscope units.



## Built-in narrow linewidth tunable laser

IQReceiver comes with a built-in narrow 25 KHz instantaneous linewidth laser, making it perfect for coherent modulation formats that require high phase stability.



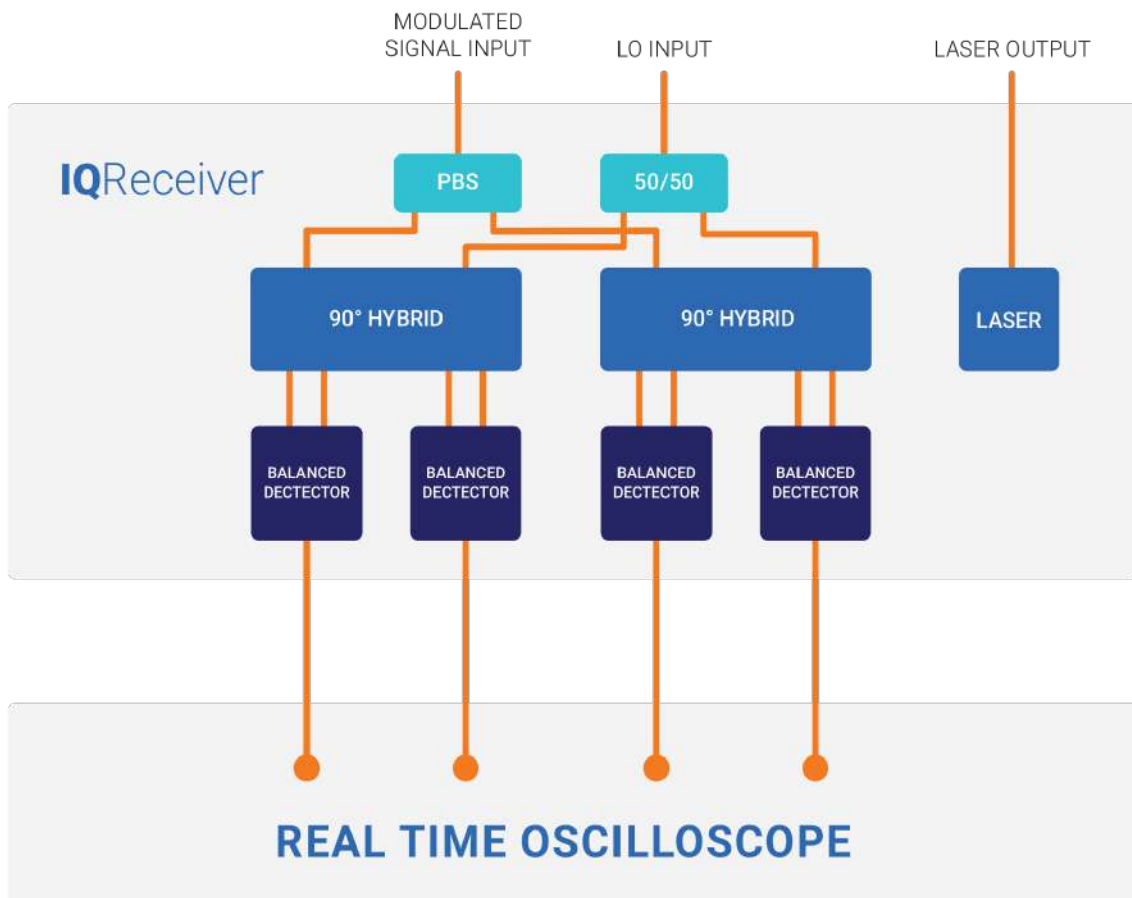
## 19 inch rack mountable

IQReceiver can be paired with the rack mount brackets for easy mounting in any 19 inch rack.

# Target Applications

- Coherent DSP development
- Coherent transmitter testing
- Custom modulation format development
- Mil / Aero communications R&D

# OMA System Schematic Diagram

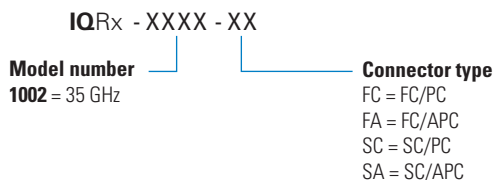


# Technical Specifications - Preliminary

General Specifications	IQRx
Dimensions (H x W x D)	97 x 440 x 390 mm   3.82 x 17.32 x 15.35 inch
Weight	~ 9.2 kg   ~ 20.3 lbs
Operating temperature range	5 °C to 45 °C   41 °F to 113 °F
Storage temperature range	-40 °C to 70 °C   -40 °F to 158 °F
Model Number	1002
Wavelength	1527 to 1630 nm
Number of polarizations	2
RF outputs	4: Xi, Xq, Yi, Yq
RF connector	2.4 mm female
Analog bandwidth (-3 dB)	>35 GHz
Analog bandwidth (-6 dB)	>42 GHz
RF imbalance @ 2GHz	± 5% (Typical)   ± 12% (Max)
RF impedance	50 ohms
Low frequency cutoff	0 Hz
Conversion gain into 50 ohm load	11.25 V/W
Channel skew	± 4 ps (Typical)   ± 10 ps (Max)
Quadrature error	± 5 deg
Damage level external LO input	+25 dBm
Damage level signal input	+25 dBm
Polarization extinction ratio LO input	20 dB
Local Oscillator	1002
Maximum optical CW output power	15.5 dBm
Minimum optical CW output power	7 dBm
Wavelength range	1527.605 to 1567.132 nm
Minimum wavelength step	~1 pm
Minimum frequency step	100 MHz
Tuning time/sweep speed	< 30 s
Absolute wavelength accuracy	10 pm
Linewidth (short term)	< 100 kHz, 25 kHz (Typical)
Sidemode Suppression Ratio (SMSR)	55 dB (Typical)
Relative Intensity Noise (RIN)	-145 dB/Hz (10 MHz to 40 GHz)

PRELIMINARY SPECS AS OF JUNE 2019

# Ordering Information



## Product Warranty

This product comes with a 3 year warranty.

## About Coherent Solutions




Coherent Solutions is the world-leader in PXI optical test and measurement. Our portfolio of PXI optical test modules is rapidly expanding to meet the needs of engineers and scientists around the globe. From enabling pioneering experiments to driving highly-efficient production testing, you'll find us working with customers to solve complex problems with simple and intuitive solutions.

**To find out more, get in touch with us today.**

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