

# SFP Fiber Optic Transceivers

TR3310-PI, TR3340-PI  
2.125 Gbps 1310 nm Optical Transceiver Modules

## FEATURES

- Enables optical communications between various headend products
- Up to 2.125 Gbps bi-directional data links
- Pluggable RJ-45 footprint
- Duplex LC connector
- Very low jitter
- Metal enclosure for lower EMI
- 3.3 V power supply with low power dissipation
- Extended operating temperature range



## PRODUCT OVERVIEW

ARRIS TR33xx-PI series Optical Transceiver Modules enable additional capabilities for high-speed bi-directional communications required for ARRIS' digital networking products. These transceiver modules have been optimized for optical communications between various headend or hub equipment, supporting link lengths up to 10 km with the TR3310-PI and up to 40 km with the TR3340-PI.

Conforming to the Small Form Factor Pluggable (SFP) Multisource Agreement, these state-of-the-art components are designed expressly for high-speed bi-directional communication applications that require rates of up to 2.125 Gbps, with the laser transmission portion of the device operating at a wavelength of 1310 nm.

TR33xx-PI SFPs feature a very low jitter contribution, resulting in extremely clean, high-quality eye patterns. And the modules' metal enclosure not only makes them sturdier, but also improves their FCC test margins. This emission and ESD control is particularly important in applications with sensitive multiport hubs and switches. The module operates at extended temperature range (−40° to +85°C), and dissipate less than 875 mW. Modules are supplied with a duplex LC connector.

## SPECIFICATIONS

Characteristics	Specification		
<b>Physical</b>			
Dimensions	2.2" L x 0.4" H x 0.5" W (5.6 cm x 1.0 cm x 1.3 cm)		
Weight	0.1 lbs (0.05 kg)		
<b>Environmental</b>			
Application temperature range	−40° to +85°C (−40° to +185°F)		
Storage temperature range	−40° to +85°C (−40° to +185°F)		
Humidity	5% to 95% non-condensing		
<b>Optical Interface</b>			
Optical connectors	Duplex LC		
<b>Power requirements</b>			
Input voltage	3.3 V <sub>DC</sub> (250 mA max)		
Power consumption	<ul style="list-style-type: none"> <li>TR3310-PI: 700 mW max</li> <li>TR3340-PI: 875 mW max</li> </ul>		
<b>General</b>			
Supported link length	<ul style="list-style-type: none"> <li>TR3310-PI: 10 km (on SMF-28 or equivalent)</li> <li>TR3340-PI: 40 km (on SMF-28 or equivalent)</li> </ul>		
Data rate	2.125 Gbps		
BER	10 <sup>-12</sup> max		
Hot plug-in/out			
<b>Optical</b>			
<b>Transmitter:</b>			
		<b>TR3310-PI</b>	<b>TR3340-PI</b>
Transmitter type		Fabry-Perot	DFB
Center wavelength (nm)		1310	1310
Optical output power (dBm):	Min	−10	−1
	Max	−3	+2.5
<b>Receiver:</b>			
Receiver type		PIN	PIN
Center wavelength (nm)		1310	1310
Receiver sensitivity, max (dBm)		−18	−21
Return loss, min (dB)		12	27
Receive LOS assert level (dBm)		−20.5	−21.5
<b>Regulatory</b>			
Class 1 devices per FDA 21 CFR 1040.10 and IEC-60825-1 laser safety regulations			

ORDERING INFORMATION



Transceiver Plug-in Module

Max Link Length (00 = 10 km, and 40 = 40 km)

RELATED PRODUCTS

Media Converter access products	RQ4150S
---------------------------------	---------

## Customer Care

Contact Customer Care for product information and sales:

- United States: 866-36-ARRIS
- International: +1-678-473-5656

**Note:** Specifications are subject to change without notice.

**Copyright Statement:** ©ARRIS Enterprises, LLC, 2016. All rights reserved. No part of this publication may be reproduced in any form or by any means or used to make any derivative work (such as translation, transformation, or adaptation) without written permission from ARRIS Enterprises, LLC (“ARRIS”). ARRIS reserves the right to revise this publication and to make changes in content from time to time without obligation on the part of ARRIS to provide notification of such revision or change. ARRIS and the ARRIS logo are registered trademarks of ARRIS Enterprises, LLC. Other trademarks and trade names may be used in this document to refer to either the entities claiming the marks or the names of their products. ARRIS disclaims proprietary interest in the marks and names of others. The capabilities, system requirements and/or compatibility with third-party products described herein are subject to change without notice.