Electron

MINI GBIC

CATALOG

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INTRODUCTION

Small Form-factor Pluggable (SFP) transceivers are designed to meet the growing performance demands of high-speed optical networks, enabling efficient and secure communication over distances of up to 150 kilometers. With the ability to operate in extreme temperature conditions, ranging from -40°C to +85°C, these modules stand out for their reliability and robustness in critical applications.

With models in bidirectional (BIDI) and duplex versions, both designed to ensure compatibility with a wide range of devices and standards used in the networking and telecommunications sector. They are available in different wavelengths (1310 nm and 1550 nm), allowing flexibility in planning and expanding network topologies. The variety of optical interfaces, with LC, SC or RJ-45 type connectors, and the option for single or dual mode transmissions, make these modules versatile and adaptable to different optical infrastructure architectures.

With a focus on stability, energy efficiency and continuous performance, this selection is designed to integrate systems that require high reliability in data transmission, minimizing losses and ensuring signal integrity in any application scenario. The construction quality and support for standardized protocols reinforce the suitability of these transceivers for the most diverse connectivity needs, both in new deployments and in upgrades of existing networks.

Applications;

- Power substations, where communication between relays and automation systems requires reliable equipment, even under extreme conditions.
- Data centers, which demand high speed and stability in the transmission of large volumes of data.
- Shopping malls, with monitoring, building automation and security networks operating over long distances within the complex.
- Automotive and chemical industries, which integrate distributed control networks (DCS/PLC) over wide areas and with electromagnetic interference.
- Hospitals, where communication stability is essential for IT systems, security, and building automation.
- University campuses, interconnecting several buildings with a centralized data infrastructure.

TECHNICAL DATA AND ORDER SPECIFICATION SFP TRANSCEIVER

SFP TRANSCEIVER – BIDI – 155M – WORKING TEMP. -40 ~85ºC

DISTANCE	FIBER TYPE	SIGNAL STRENGTH	SENSITIVITY	INTERFACE	CONNECTOR	WAVELENGTH	PART NUMBER ELECTRON	COD. ELECTRON
10Km	Singlemode	-15~-7 dBm	-34 dBm	Simple Bi-Directional	LC	1310 nm	ELT-PB3503-L10TD	**PA1171A**
						1550 nm	ELT-PB5303-L10TD	**PA1171B**
					SC	1310 nm	ELT-PB3503-S10TD	**PA1170A**
						1550 nm	ELT-PB5303-S10TD	**PA1170B**
20Km	Singlemode	-15~-7 dBm	-34 dBm	Simple Bi-Directional	LC	1310 nm	ELT-PB3503-L20TD	**PA1172A**
						1550 nm	ELT-PB5303-L20TD	**PA1172B**
					SC	1310 nm	ELT-PB3503-S20TD	**PA1173A**
						1550 nm	ELT-PB5303-S20TD	**PA1173B**
40Km	Singlemode	-9~-3 dBm	-34 dBm	Simple Bi-Directional	LC	1310 nm	ELT-PB3503-L40TD	**PA1174A**
						1550 nm	ELT-PB5303-L40TD	**PA1174B**
					SC	1310 nm	ELT-PB3503-S40TD	**PA1175A**
						1550 nm	ELT-PB5303-S40TD	**PA1175B**
60Km	Singlemode	-3~0 dBm	-34 dBm	Simple Bi-Directional	LC	1310 nm	ELT-PB3503-L60TD	**PA1176A**
						1550 nm	ELT-PB5303-L60TD	**PA1176B**
					SC	1310 nm	ELT-PB3503-S60TD	**PA1177A**
						1550 nm	ELT-PB5303-S60TD	**PA1177B**
80Km	Singlemode	-6~-3 dBm	-34 dBm	Simple Bi-Directional	LC	1310 nm	ELT-PB3503-L80TD	**PA1178A**
						1550 nm	ELT-PB5303-L80TD	**PA1178B**
					SC	1310 nm	ELT-PB3503-S80TD	**PA1179A**
						1550 nm	ELT-PB5303-S80TD	**PA1179B**
100Km	Singlemode	-3~0 dBm	-34 dBm	Simple Bi-Directional	LC	1310 nm	ELT-PB3503-L100TD	**PA1180A**
						1550 nm	ELT-PB5303-L100TD	**PA1180B**
					SC	1310 nm	ELT-PB3503-S100TD	**PA1181A**
						1550 nm	ELT-PB5303-S100TD	**PA1181B**
120Km	Singlemode	0~2 dBm	-36 dBm	Simple Bi-Directional	LC	1310 nm	ELT-PB3503-L120TD	**PA1182A**
						1550 nm	ELT-PB5303-L120TD	**PA1182B**
					SC	1310 nm	ELT-PB3503-S120TD	**PA1183A**
						1550 nm	ELT-PB5303-S120TD	**PA1183B**
150Km	Singlemode	-2~5dBm	-36 dBm	Simple Bi-Directional	LC	1310 nm	ELT-PB3503-L150TD	**PA1184A**
						1550 nm	ELT-PB5303-L150TD	**PA1184B**
					SC	1310 nm	ELT-PB3503-S150TD	**PA1185A**
						1550 nm	ELT-PB5303-S150TD	**PA1185B**

Table 1 – Technical Data Transceiver – BIDI – 155MM

SFP TRANSCEIVER – 155M – WORKING TEMP -40 ~85ºC

DISTANCE	FIBER TYPE	SIGNAL STRENGTH	SENSITIVITY	INTERFACE	CONNECTOR	WAVELENGTH	PART NUMBER. ELECTRON	CODE. ELECTRON
2Km	Singlemode	-15~-7 dBm	-34 dBm	Double	LC	1310 nm	ELT-P1303-02TD	**PA1186**
20Km	Singlemode	-9~-7 dBm	-34 dBm	Double	LC	1310 nm	ELT-P1303-20TD	**PA1187**
40Km	Singlemode	-9~-3 dBm	-34 dBm	Double	LC	1550 nm	ELT-P5503-40TD	**PA1188**
60Km	Singlemode	-3~-0 dBm	-34 dBm	Double	LC	1550 nm	ELT-P5503-60TD	**PA1189**
80Km	Singlemode	0~-2 dBm	-34 dBm	Double	LC	1550 nm	ELT-P5503-80TD	**PA1190**
100Km	Singlemode	-3~0 dBm	-34 dBm	Double	LC	1550 nm	ELT-P5503-100TD	**PA1191**
120Km	Singlemode	-2~1 dBm	-36 dBm	Double	LC	1550 nm	ELT-P5503-120TD	**PA1192**
150Km	Singlemode	1~5 dBm	-36 dBm	Double	LC	1550 nm	ELT-P5503-150TD	**PA1193**

Table 2 – Technical Data SFP Transceiver – 155MM

SFP TRANSCEIVER – 10/100/1000Mbps – Copper – RJ45 – WORKING TEMP. -40 ~85ºC

DISTANCE	CONNECTOR	PART NUMBER ELECTRON	ELECTRON CODE
100 Meters	RJ45	ELT-PTT2-RS1	**PA1169**

Table 3 – Technical Data SFP Transceiver – 10/100/1000Mbps

TYPES OF SFP TRANSCEIVER CONNECTIONS

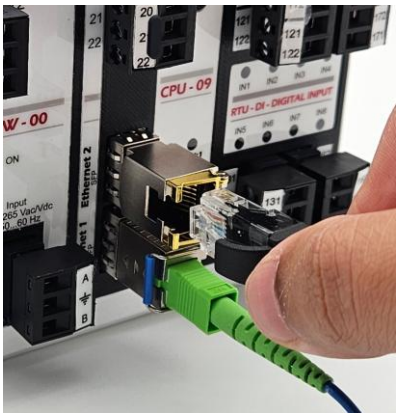

Figure 1 – 1 Bidirectional Optical Fiber + RJ45
PA1169+PA1170B

Figure 2 – 2 RJ45
2 PA1169

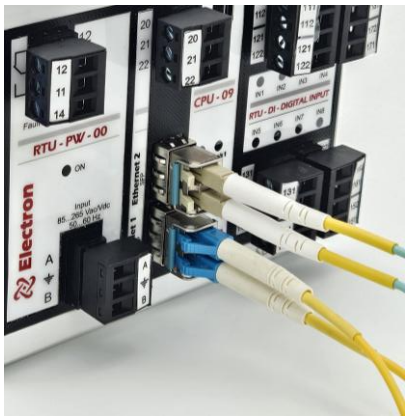

Figure 3 – 2 Double Optical Fiber
2 PA1187

Figure 4 – 1 Dual Optical Fiber + RJ-45
PA1187 + PA1169

Figure 5 – 1 Double Optical Fiber + 1 Bidirectional Optical Fiber
PA1187+PA1170B

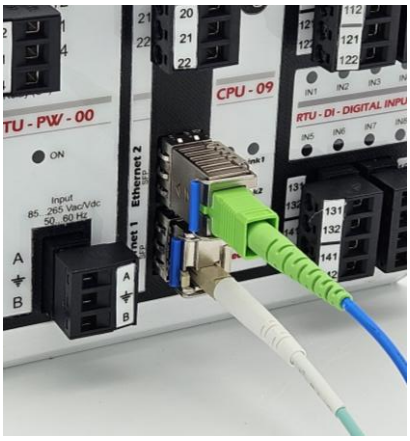

Figure 6 – 1 Bidirectional Fiber SC Connection + 1 Bidirectional Fiber LC Connection - PA1170B + PA1171B

HOW TO CONNECT AND DISCONNECT MINI GBIC

Connecting GBIC:

STEP 1

STEP 2

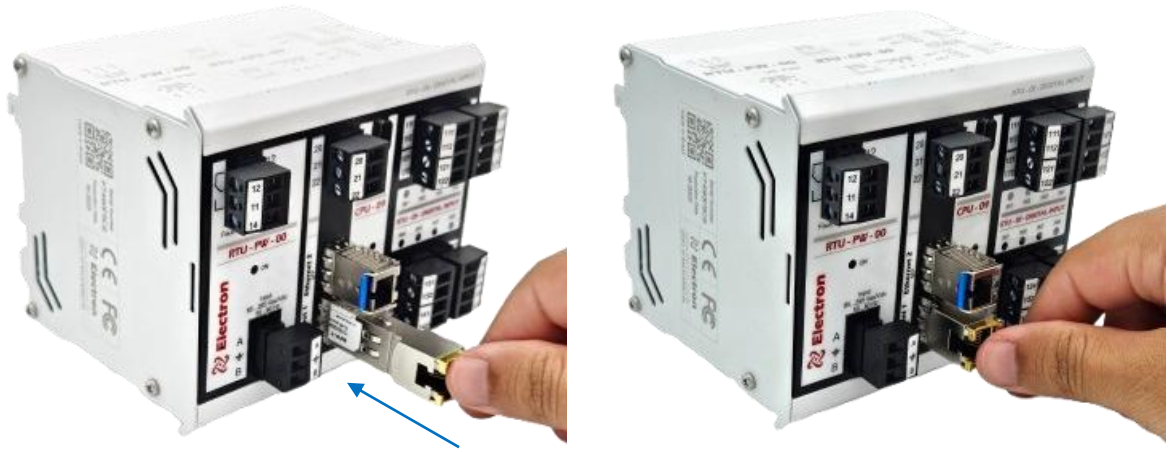

Figure 7 – Connecting GBIC

Disconnecting GBIC:

STEP 1

STEP 2

Figure 8 – Disconnecting GBIC

SPECIFICATION FOR ORDER

Electron Code	Distance	Interface	Connector	Wavelength	Part Number
PA1171A	10 Km	Simple Bi-Directional	LC	1310 nm	ELT-PB3503-L10TD
PA1171B	10 Km	Simple Bi-Directional	SC	1550 nm	ELT-PB5303-L10TD
PA1170A	10 Km	Simple Bi-Directional	LC	1310 nm	ELT-PB3503-S10TD
PA1170B	10 Km	Simple Bi-Directional	SC	1550 nm	ELT-PB5303-S10TD
PA1172A	20 Km	Simple Bi-Directional	LC	1310 nm	ELT-PB3503-L20TD
PA1172B	20 Km	Simple Bi-Directional	SC	1550 nm	ELT-PB5303-L20TD
PA1173A	20 Km	Simple Bi-Directional	LC	1310 nm	ELT-PB3503-S20TD
PA1173B	20 Km	Simple Bi-Directional	SC	1550 nm	ELT-PB5303-S20TD
PA1174A	40 Km	Simple Bi-Directional	LC	1310 nm	ELT-PB3503-L40TD
PA1174B	40 Km	Simple Bi-Directional	SC	1550 nm	ELT-PB5303-L40TD
PA1175A	40 Km	Simple Bi-Directional	LC	1310 nm	ELT-PB3503-S40TD
PA1175B	40 Km	Simple Bi-Directional	SC	1550 nm	ELT-PB5303-S40TD
PA1176A	60 Km	Simple Bi-Directional	LC	1310 nm	ELT-PB3503-L60TD
PA1176B	60 Km	Simple Bi-Directional	SC	1550 nm	ELT-PB5303-L60TD
PA1177A	60 Km	Simple Bi-Directional	LC	1310 nm	ELT-PB3503-S60TD
PA1177B	60 Km	Simple Bi-Directional	SC	1550 nm	ELT-PB5303-S60TD
PA1178A	80 Km	Simple Bi-Directional	LC	1310 nm	ELT-PB3503-L80TD
PA1178B	80 Km	Simple Bi-Directional	SC	1550 nm	ELT-PB5303-L80TD
PA1179A	80 Km	Simple Bi-Directional	LC	1310 nm	ELT-PB3503-S80TD
PA1179B	80 Km	Simple Bi-Directional	SC	1550 nm	ELT-PB5303-S80TD
PA1180A	100 Km	Simple Bi-Directional	LC	1310 nm	ELT-PB3503-L100TD
PA1180B	100 Km	Simple Bi-Directional	SC	1550 nm	ELT-PB5303-L100TD
PA1181A	100 Km	Simple Bi-Directional	LC	1310 nm	ELT-PB3503-S100TD
PA1181B	100 Km	Simple Bi-Directional	SC	1550 nm	ELT-PB5303-S100TD
PA1182A	120 Km	Simple Bi-Directional	LC	1310 nm	ELT-PB3503-L120TD
PA1182B	120 Km	Simple Bi-Directional	SC	1550 nm	ELT-PB5303-L120TD
PA1183A	120 Km	Simple Bi-Directional	LC	1310 nm	ELT-PB3503-S120TD
PA1183B	120 Km	Simple Bi-Directional	SC	1550 nm	ELT-PB5303-S120TD
PA1184A	150 Km	Simple Bi-Directional	LC	1310 nm	ELT-PB3503-L150TD
PA1184B	150 Km	Simple Bi-Directional	SC	1550 nm	ELT-PB5303-L150TD
PA1185A	150 Km	Simple Bi-Directional	LC	1310 nm	ELT-PB3503-S150TD
PA1185B	150 Km	Simple Bi-Directional	SC	1550 nm	ELT-PB5303-S150TD
PA1186	2 Km	Singlemode	LC	1310 nm	ELT-P1303-02TD
PA1187	20 Km	Singlemode	LC	1310 nm	ELT-P1303-20TD
PA1188	40 Km	Singlemode	LC	1550 nm	ELT-P5503-40TD
PA1189	60 Km	Singlemode	LC	1550 nm	ELT-P5503-60TD
PA1190	80 Km	Singlemode	LC	1550 nm	ELT-P5503-80TD
PA1191	100 Km	Singlemode	LC	1550 nm	ELT-P5503-100TD
PA1192	120 Km	Singlemode	LC	1550 nm	ELT-P5503-120TD
PA1193	150 Km	Singlemode	LC	1550 nm	ELT-P5503-150TD
PA1169	100 M	---	RJ-45	---	ELT-PTT2-RS1

Table 4 – Specification for ordering

IMPORTANT RECOMMENDATIONS

Before putting the equipment into operation, check the following recommendations:

1. If the GBIC was well allocated in the RTU.
2. Store in a place with humidity control.
3. Make sure you are making the connection in the correct way as step by step.

WARRANTY TERM

GBIC's have a warranty period of two years from the date of sale stated on the invoice, with coverage for any manufacturing defects that make it unsuitable or unsuitable for the applications for which it is intended.

Disclaimer of Warranty

The warranty does not cover transportation expenses for technical assistance, freight and insurance for shipment of a product with evidence of defect or malfunction.
The following events are also not covered: Natural wear and tear of parts due to continuous and frequent use, damage to the outside caused by falls or improper packaging; attempt to repair/violate a seal with damage caused by people not authorized by Electron do Brasil and in disagreement with the instructions that are part of the technical description.

Loss of Warranty

Product will automatically lose warranty when:
- If the instructions for use and assembly contained in this manual and the installation procedures of the NBR 5410 standard are not observed;

- Subjected to conditions outside the limits specified in the respective technicians;

- Violated or repaired by a person other than the technical team of Electron do Brasil;

- The damage is caused by water or any other liquid;

- Infiltration of water or any other liquid occurs;

- Overload occurs that causes degradation of components and parts of the product;

Use of the Warranty

To enjoy this warranty, the customer must send the product to Electron do Brasil along with a copy of the purchase invoice properly packaged so that there is no damage in transport. For an emergency service, it is recommended to send as much information as possible regarding the defect detected. This will be analyzed and subjected to full functional tests. The costs for sending and receiving the equipment are at the customer's expense.

The analysis of the product and its eventual maintenance will only be carried out by the technical team of Electron do Brasil at its headquarters.