TRPP 5810
Pulser/Preamplifier for TOFD Inspection
User's Manual

DMTA-20070-01EN — Rev. B
September 2022

This instruction manual contains essential information on how to use this Evident product safely and effectively. Before using this product, thoroughly review this instruction manual. Use the product as instructed.
Keep this instruction manual in a safe, accessible location.

EVIDENT CANADA, 3415, Rue Pierre-Ardouin, Québec (QC) G1P 0B3 Canada

This document was prepared with particular attention to usage to ensure the accuracy of the information contained therein, and corresponds to the version of the product manufactured prior to the date appearing on the title page. There could, however, be some differences between the manual and the product if the product was modified thereafter.

The information contained in this document is subject to change without notice.

Part number: DMTA-20070-01EN
Rev. B
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List of Abbreviations

EFUP	environment-friendly use period
I/O	input/output
LED	light-emitting diode
N/A	not applicable
PRF	pulse-repetition frequency
UT	ultrasonic testing

Important Information — Please Read Before Use

Intended Use

The TRPP 5810 is designed to perform nondestructive inspections on industrial and commercial materials.

WARNING

Do not use the TRPP 5810 for any purpose other than its intended use. It must never be used to inspect or examine human or animal body parts.

Instruction Manual

This instruction manual contains essential information on how to use this product safely and effectively. Before using this product, thoroughly review this instruction manual. Use the product as instructed. Keep this instruction manual in a safe, accessible location.

IMPORTANT

Some of the details of components illustrated in this manual may differ from the components installed on your device. However, the operating principles remain the same.

Device Compatibility

Only use this device with the approved ancillary equipment provided by Evident. Equipment provided by Evident and approved for use with this device is described later in this manual.

CAUTION

Always use equipment and accessories that meet Evident specifications. Using incompatible equipment could cause equipment malfunction and/or damage, or human injury.

Repair and Modification

This device does not contain any user-serviceable parts. Opening the device might void the warranty.

CAUTION

In order to prevent human injury and/or equipment damage, do not disassemble, modify, or attempt to repair the device.

Safety Symbols

The following safety symbols might appear on the device and in the instruction manual:

General warning symbol

This symbol is used to alert the user to potential hazards. All safety messages that follow this symbol shall be obeyed to avoid possible harm or material damage.

 High voltage warning symbol

This symbol is used to alert the user to potential electric shock hazards greater than 1000 volts. All safety messages that follow this symbol shall be obeyed to avoid possible harm.

Safety Signal Words

The following safety symbols might appear in the documentation of the device:

 **DANGER**

The DANGER signal word indicates an imminently hazardous situation. It calls attention to a procedure, practice, or the like, which, if not correctly performed or adhered to, will result in death or serious personal injury. Do not proceed beyond a DANGER signal word until the indicated conditions are fully understood and met.

 **WARNING**

The WARNING signal word indicates a potentially hazardous situation. It calls attention to a procedure, practice, or the like, which, if not correctly performed or adhered to, could result in death or serious personal injury. Do not proceed beyond a WARNING signal word until the indicated conditions are fully understood and met.

 **CAUTION**

The CAUTION signal word indicates a potentially hazardous situation. It calls attention to an operating procedure, practice, or the like, which, if not correctly performed or adhered to, may result in minor or moderate personal injury, material damage, particularly to the product, destruction of part or all of the product, or loss of data. Do not proceed beyond a CAUTION signal word until the indicated conditions are fully understood and met.

Note Signal Words

The following note signal words could appear in the documentation of the device:

IMPORTANT

The IMPORTANT signal word calls attention to a note that provides important information, or information essential to the completion of a task.

NOTE

The NOTE signal word calls attention to an operating procedure, practice, or the like, which requires special attention. A note also denotes related parenthetical information that is useful, but not imperative.

TIP

The TIP signal word calls attention to a type of note that helps you apply the techniques and procedures described in the manual to your specific needs, or provides hints on how to effectively use the capabilities of the product.

Safety

Before turning on the device, verify that the correct safety precautions have been taken (see the following warnings). In addition, note the external markings on the device, which are described under “Safety Symbols.”

Warnings

WARNING

General Warnings

- Carefully read the instructions contained in this instruction manual prior to turning on the device.
- Keep this instruction manual in a safe place for further reference.

- Follow the installation and operation procedures.
- It is imperative to respect the safety warnings on the device and in this instruction manual.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment could be impaired.
- Do not install substitute parts or perform any unauthorized modification to the device.
- Service instructions, when applicable, are for trained service personnel. To avoid the risk of electric shock, do not perform any work on the device unless qualified to do so. For any problem or question regarding this device, contact Evident or an authorized Evident representative.
- Do not touch the connectors directly by hand. Otherwise, a malfunction or electric shock may result.
- Do not allow metallic or foreign objects to enter the device through connectors or any other openings. Otherwise, a malfunction or electric shock may result.

WARNING

Electrical Warning

The device must only be connected to a power source corresponding to the type indicated on the rating label.

CAUTION

If a non-approved power supply cord not dedicated to Evident products is used, Evident will not be able to ensure the electrical safety of the equipment.

Battery Precautions

CAUTION

- Before disposing of a battery, check your local laws, rules, and regulations, and follow them accordingly.

- Transportation of lithium-ion batteries is regulated by the United Nations under the United Nations Recommendations on the Transport of Dangerous Goods. It is expected that governments, intergovernmental organizations, and other international organizations shall conform to the principles laid down in these regulations, thus contributing to worldwide harmonization in this field. These international organizations include the International Civil Aviation organization (ICAO), the International Air Transport Association (IATA), the International Maritime Organization (IMO), the US Department of Transportation (USDOT), Transport Canada (TC), and others. Please contact the transporter and confirm current regulations before transportation of lithium-ion batteries.
- For California (USA) only:

  The device may contain a CR battery. The CR battery contains perchlorate material, and special handling may be required. Refer to http://www.dtsc.ca.gov/hazardouswaste/perchlorate.
- Do not open, crush, or perforate batteries; doing so could cause injury.
- Do not incinerate batteries. Keep batteries away from fire and other sources of extreme heat. Exposing batteries to extreme heat (over 80 °C) could result in an explosion or personal injury.
- Do not drop, hit, or otherwise abuse a battery, as doing so could expose the cell contents, which are corrosive and explosive.
- Do not short-circuit the battery terminals. A short circuit could cause injury and severe damage to a battery making it unusable.
- Do not expose a battery to moisture or rain; doing so could cause an electric shock.
- Only use an external charger approved by Evident to charge the batteries.
- Only use batteries supplied by Evident.
- Do not store batteries that have less than 40 % remaining charge. Recharge batteries to between 40 % and 80 % capacity before storing them.
- During storage, keep the battery charge between 40 % and 80 %.
- Do not leave batteries in the TRPP 5810 unit during device storage.

Regulations for Shipping Products with Lithium-Ion Batteries

IMPORTANT

When shipping a Li-ion battery or batteries, be sure to follow all local transportation regulations.

WARNING

Damaged batteries cannot be shipped through normal routes — DO NOT ship damaged batteries to Evident. Contact your local Evident representative or material disposal professionals.

Equipment Disposal

Before disposing of the TRPP 5810, check your local laws, rules, and regulations, and follow them accordingly.

BC (Battery Charger - California, USA Community)

The BC marking indicates that this product has been tested and complies with the Appliance Efficiency Regulations as stated in the California Code of Regulations Title 20, Sections 1601 through 1608 for Battery Charger Systems. The internal battery charger within this device has been tested and certified pursuant to the California Energy Commission's (CEC) requirements; this device is listed on the online CEC's (T20) database.

CE (European Community)

This device complies with the requirements of directive 2014/30/EU concerning electromagnetic compatibility, directive 2014/35/EU concerning low voltage, and directive 2015/863 which amends 2011/65/EU concerning restriction of hazardous substances (RoHS). The CE marking is a declaration that this product conforms to all the applicable directives of the European Community.

UKCA (United Kingdom)

This device complies with the requirements of the Electromagnetic Compatibility Regulations 2016, the Electrical Equipment (Safety) Regulations 2016, and the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012. The UKCA marking indicates compliance with the above regulations.

RCM (Australia)

The regulatory compliance mark (RCM) label indicates that the product complies with all applicable standards, and has been registered with the Australian Communications and Media Authority (ACMA) for placement on the Australian market.

WEEE Directive

In accordance with European Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE), this symbol indicates that the product must not be disposed of as unsorted municipal waste, but should be collected separately. Refer to your local Evident distributor for return and/or collection systems available in your country.

China RoHS

China RoHS is the term used by industry generally to describe legislation implemented by the Ministry of Information Industry (MII) in the People's Republic of China for the control of pollution by electronic information products (EIP).

The China RoHS mark indicates the product's Environment-Friendly Use Period (EFUP). The EFUP is defined as the number of years for which listed controlled substances will not leak or chemically deteriorate while in the product. The EFUP for the TRPP 5810 has been determined to be 15 years.

Note: The Environment-Friendly Use Period (EFUP) is not meant to be interpreted as the period assuring functionality and product performance.

电器电子产品有害物质限制使用标志

本标志是根据“电器电子产品有害物质限制使用管理办法”以及“电子电气产品有害物质限制使用标识要求”的规定，适用于在中国销售的电器电子产品上的电器电子产品有害物质使用限制标志。

（注意）电器电子产品有害物质限制使用标志内的数字为在正常的使用条件下有害物质等不泄漏的期限，不是保证产品功能性能的期间。

产品中有害物质的名称及含量

部件名称		有害物质					
		铅及其化合物 (Pb)	汞及其化合物 (Hg)	镉及其化合物 (Cd)	六价铬及其化合物 (Cr(Ⅵ))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
主体	机构部件	×	○	○	○	○	○
	光学部件	×	○	○	○	○	○
	电气部件	×	○	○	○	○	○

产品中有害物质的名称及含量

部件名称	有害物质					
	铅及其化合物 (Pb)	汞及其化合物 (Hg)	镉及其化合物 (Cd)	六价铬及其化合物 (Cr(Ⅵ))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
附件	×	○	○	○	○	○

本表格依据 SJ/T 11364 的规定编制。

○：表示该有害物质在该部件所有均质材料中的含量均在 GB/T26572 规定的限量要求以下。

×：表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T26572 规定的限量要求。

Korea Communications Commission (KCC)

Seller and user shall be noticed that this equipment is suitable for electromagnetic equipment for office work (class A) and it can be used outside the home. This device complies with the EMC requirements of Korea.

이 기기는 업무용 환경에서 사용할 목적으로 적합성평가를 받은 기기로서 가정용 환경에서 사용하는 경우 전파간섭의 우려가 있습니다 .

EMC Directive Compliance

This equipment generates and uses radio-frequency energy and, if not installed and used properly (that is, in strict accordance with the manufacturer's instructions), may cause interference. The TRPP 5810 has been tested and found to comply with the limits for an industrial device in accordance with the specifications of the EMC directive.

FCC (USA) Compliance

NOTE

This product has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the product is operated in a commercial environment. This product generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, might cause harmful interference to radio communications. Operation of this product in a residential area is likely to cause harmful interference, in which case you will be required to correct the interference at your own expense.

IMPORTANT

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the product.

FCC Supplier's Declaration of Conformity

Hereby declares that the product,

Product name: TRPP 5810
Model: TRPP 5810-MR/TRPP 5810-CW

Conforms to the following specifications:

FCC Part 15, Subpart B, Section 15.107 and Section 15.109.

Supplementary information:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

(2) This device must accept any interference received, including interference that may cause undesired operation.

Responsible party name:

EVIDENT CANADA

Address:

3415, Rue Pierre-Ardouin, Québec (QC) G1P 0B3 Canada

Phone number:

+1 781-419-3900

ICES-001 (Canada) Compliance

This Class A digital apparatus complies with Canadian ICES-001.

Cet appareil numérique de la classe A est conforme à la norme NMB-001 du Canada.

Warranty Information

Evident guarantees your Evident product to be free from defects in materials and workmanship for a specific period, and in accordance with conditions specified in the Terms and Conditions available at https://www.olympus-ims.com/en/terms/.

The Evident warranty only covers equipment that has been used in a proper manner, as described in this instruction manual, and that has not been subjected to excessive abuse, attempted unauthorized repair, or modification.

Inspect materials thoroughly on receipt for evidence of external or internal damage that might have occurred during shipment. Immediately notify the carrier making the delivery of any damage, because the carrier is normally liable for damage during shipment. Retain packing materials, waybills, and other shipping documentation needed in order to file a damage claim. After notifying the carrier, contact Evident for assistance with the damage claim and equipment replacement, if necessary.

This instruction manual explains the proper operation of your Evident product. The information contained herein is intended solely as a teaching aid, and shall not be used in any particular application without independent testing and/or verification by the operator or the supervisor. Such independent verification of procedures becomes increasingly important as the criticality of the application increases. For this reason, Evident makes no warranty, expressed or implied, that the techniques, examples, or procedures described herein are consistent with industry standards, nor that they meet the requirements of any particular application.

Evident reserves the right to modify any product without incurring the responsibility for modifying previously manufactured products.

Technical Support

Evident is firmly committed to providing the highest level of customer service and product support. If you experience any difficulties when using our product, or if it fails to operate as described in the documentation, first consult the user's manual, and then, if you are still in need of assistance, contact our After-Sales Service. To locate the nearest service center, visit the Service Centers page on the Evident Scientific Web site.

Introduction

The TRPP 5810 is a high-performance remote pulser/preamplifier designed mainly for TOFD inspection solutions with Evident scanners and PipeWIZARD systems.

The TRPP 5810 remote pulser/preamplifier supports two UT channels in order to inspect simultaneously with two pairs of TOFD probes. It provides an optimum signal-to-noise ratio for TOFD inspection by using a 40 dB preamplifier combined with a remote high-voltage (200 V) pulse repeater in a single, small enclosure.

In order to preserve the optimum signal-to-noise ratio, the pulse-echo mode of probe amplification is not available for this product.

The TRPP 5810 signal conditioning device allows the acquisition unit of a TOFD inspection system to be located up to 50 m away from the probes.

Unit Features

The TRPP 5810 remote pulser/preamplifier offers the following features:

- General Features
  - Optimum signal-to-noise ratio for remote TOFD inspections
  - Two UT channels using two pairs of TOFD probes
  - 200 V pulsers
  - 40 dB preamplification
  - Small form factor
  - Designed for IP66 protection
  - External power supply

- Connectors
  - One 12 V direct-current inlet
  - Eight coaxial female pulser and receiver connectors (LEMO 00 series)

1. Overview of the Product

This section describes the functional and physical characteristics of the TRPP 5810 remote pulser/preamplifier.

1.1 System Configuration

The following block diagram (see Figure 1-1 on page 23) illustrates the system configuration of the TRPP 5810 remote pulser/preamplifier in a typical TOFD inspection application.

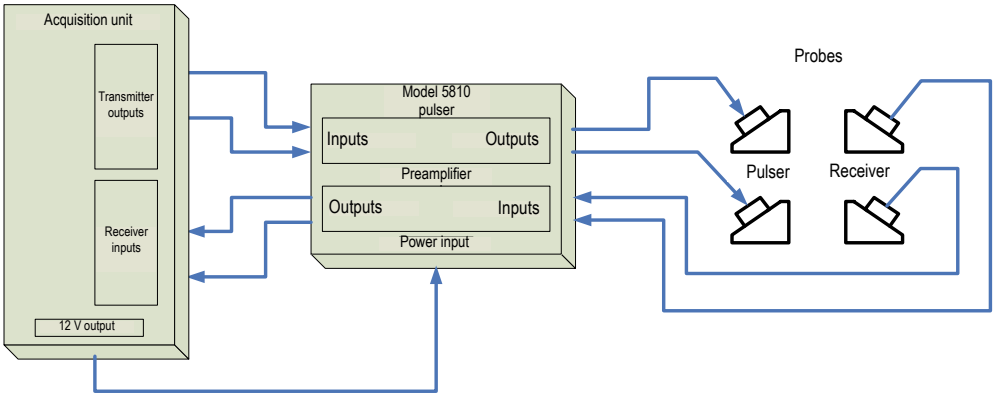

Figure 1-1 System block diagram

With the TRPP 5810 unit, remote inspection can be performed with two pairs of TOFD probes. The pulser side converts the input signal to 200 V pulse, while the receiver side provides 40 dB of preamplification.

1.2 Front Panel of the TRPP 5810 Unit

The connectors for the TOFD probes are located on the front panel of the unit (see Figure 1-2 on page 24).

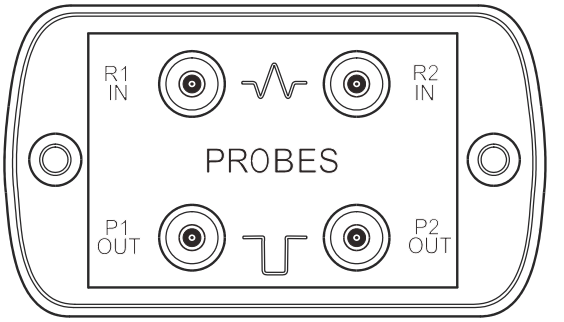

Figure 1-2 Front panel of the TRPP 5810 unit

R1 IN and R2 IN

These LEMO 00 series connectors are used to connect conventional ultrasonic-receiver probes to the TRPP 5810 unit (receivers).

P1 OUT and P2 OUT

These LEMO 00 series connectors are used to connect conventional ultrasonic-pulser probes to the TRPP 5810 unit (pulsers).

1.3 Back Panel of the TRPP 5810 Unit

The acquisition unit interfaces with the TRPP 5810 thru connections on the back panel of the TRPP 5810 (see Figure 1-3 on page 25). The POWER (on) LED indicator and power connector are also located here.

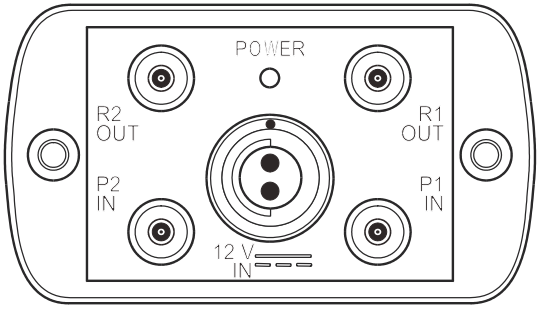

Figure 1-3 Back panel of the TRPP 5810 unit

POWER

The red LED lights up to indicate that the power is on.

12 V IN

This W.W. Fischer D.103 series connector is used to supply power to the unit, from an external 12 VDC source.

R1 OUT and R2 OUT

These LEMO 00 series connectors are used to connect the acquisition unit inputs to the TRPP 5810 unit.

P1 IN and P2 IN

These LEMO 00 series connectors are used to connect the acquisition unit outputs to the TRPP 5810 unit.

2. Installation and Operation

This chapter contains the installation procedures for the TRPP 5810 remote pulser/preamplifier.

NOTE

After the TRPP 5810 has been properly installed and connected, operation is straightforward. After power is supplied to the unit, simply make sure that the red POWER LED illuminates.

2.1 Installing the TRPP 5810 Unit

When installing the TRPP 5810, take note of the following:

- Install the TRPP 5810 remote pulser/preamplifier away from heat sources.
- Use appropriate mounting methods to ensure that the unit does not fall during operation.

After the TRPP 5810 unit is properly installed and secured, you can connect it to the acquisition unit and to the pulser and receiver probes (see “Connecting the TRPP 5810 Unit” on page 28 and “Connecting the TRPP 5810 Unit To Bypass the Pulser Connections” on page 29).

2.2 Connecting the TRPP 5810 Unit

The connectors for the probes are located on the front of the TRPP 5810 unit. The POWER input connector and the connectors that interface with the acquisition unit are located on the back of the TRPP 5810 unit.

Refer to the label affixed to the bottom side of the unit for an illustration of the common connections to the product (see Figure 2-1 on page 28).

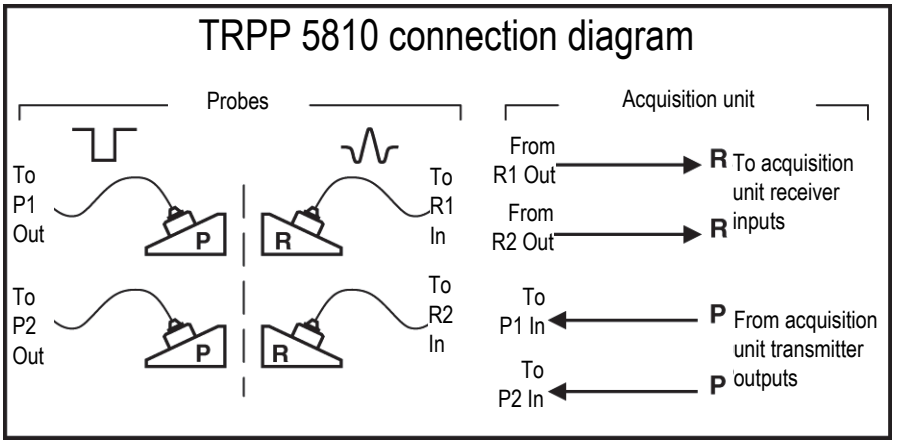

Figure 2-1 TRPP 5810 connection diagram label

CAUTION

To prevent the risk of electric shock, the product must be connected according to the manufacturer's instructions.

To connect the TRPP 5810 unit

1. Connect the pulser probes to the P1 OUT and P2 OUT connectors.
2. Connect the receiver probes to the R1 IN and R2 IN connectors.

3. Using the appropriate cables, connect the acquisition unit transmitter outputs to the P1 IN and P2 IN connectors.
4. Using the appropriate cables, connect the acquisition unit receiver inputs to the R1 OUT and R2 OUT connectors.
5. Using the appropriate cable, connect an external 12 V direct-current source to the POWER input connector.

NOTE

Two types of power cable are supplied. The first type of power cable allows the InterBox to be powered by an OmniScan acquisition unit. The second type of power cable allows the InterBox to be powered by a 120 VAC to 240 VAC source.

2.3 Connecting the TRPP 5810 Unit To Bypass the Pulser Connections

When the pulser signal from the acquisition unit is sufficiently strong (so that the signal doesn't need to be amplified), LEMO 00 female/female adaptors can be used to bypass the TRPP 5810 unit's pulser connections. Figure 2-2 on page 30 provides an example of a bypass for an alternate TOFD inspection application.

Connections are typically made using long LEMO-to-LEMO cables between the instrument and TRPP 5810 unit, and short LEMO-to-Microdot cables between the TRPP 5810 and the probes. If the TRPP 5810 pulsers have to be bypassed and no long LEMO-to-Microdot cables are available, the LEMO connectors (that were going to be connected to the TRPP 5810) can instead be connected to the supplied LEMO 00 female/female adaptors to interconnect the pairs of pulser cables between the acquisition unit and the pulser probes. This will bypass the TRPP 5810 unit's pulser P1 IN, P2 IN, P1 OUT, and P2 OUT connections.

To connect the TRPP 5810 unit to bypass the pulser connections

1. Connect the receiver probes to the R1 IN and R2 IN connectors.
2. Use the appropriate cables to connect the acquisition unit receiver inputs to the R1 OUT and R2 OUT connectors.
3. Use the appropriate cable to connect an external 12 V direct-current source to the POWER input connector.

Figure 2-2 on page 30 shows the typical pulser-bypass connections for a TRPP 5810 unit installed between four TOFD probes and an acquisition unit.

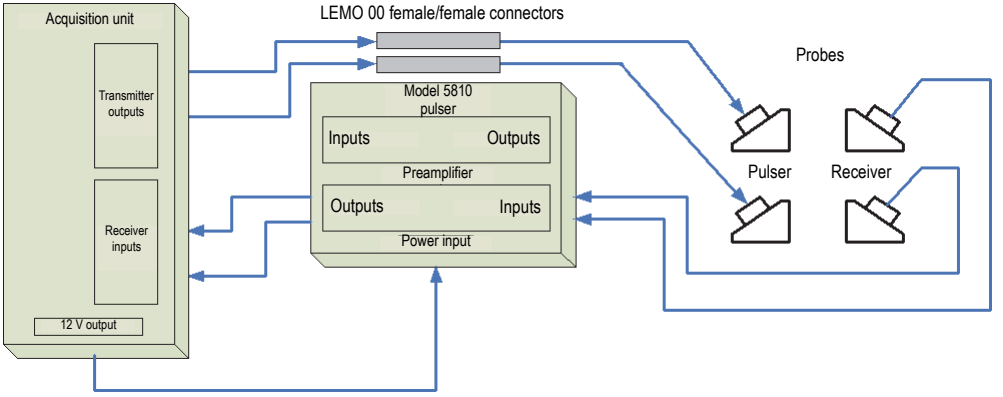

Figure 2-2 Connections between an acquisition unit and the TOFD probes, bypassing the TRPP 5810 unit's pulser connections

3. Maintenance

The maintenance requirements for the TRPP 5810 remote pulser/preamplifier are minimal.

3.1 Preventive Maintenance

Because the TRPP 5810 remote pulser/preamplifier has no moving parts, it does not require preventive maintenance. Only a regular inspection of the product is recommended to ensure that the TRPP 5810 unit functions correctly.

3.2 Unit Cleaning

The TRPP 5810 external surfaces can be cleaned when needed. This section provides the procedure for the appropriate cleaning of the product.

To clean the unit

1. Ensure the unit is turned off by removing the source of power.
2. Disconnect all cables.
3. To bring the instrument back to its original finish, clean the housing with a soft cloth.
4. To remove persistent stains, use a damp cloth with a soft, soapy solution. Do not use abrasive products or powerful solvents that could damage the finish.
5. Wait until the instrument dries completely before connecting the cables.

4. Specifications

This chapter provides general specifications for the TRPP 5810 unit, operating specifications for the pulser and receiver, and connector references.

4.1 General Specifications

Table 1 on page 33 provides the general specifications. Table 2 on page 33 provides operating-environment specifications.

Table 1 General Specifications

Parameter	Value
Housing	
Size (width × height × depth)	60 mm × 34 mm× 114 mm (2.36 in. × 1.34 in. × 4.49 in.)
Weight	300 g (0.66 lb)
Power supply	
Voltage range	9 VDC to 14 VDC (12 VDC nominal)
Current	250 mA max.

Table 2 Operating environment specifications

Parameter	Value
Operating temperature	–10 °C to 60 °C (14 °F to 140 °F)
Storage temperature	–20 °C to 60 °C (4 °F to 158 °F)
Relative humidity (RH)	Max. 95 % RH noncondensing

Table 2 Operating environment specifications *(continued)*

Parameter	Value
Wet location	Yes
Altitude	Up to 2000 m
Outdoor use	Yes
Pollution level	1
IP rating	Waterproof (designed to meet IP66)

4.2 Operating Specifications

Table 3 on page 34 and Table 4 on page 34 detail the operating specifications of the TRPP 5810 unit's pulser and receiver.

Table 3 Receiver (preamplifier) specifications

Parameter	Value
Voltage gain	40 dB ±0.5 dB into 50 W at 10 MHz
Bandwidth (−3 dB)	0.5 MHz to 30 MHz with ±10 % tolerance
Input-referred noise	≤2 nV/$\sqrt{\text{Hz}}$ with 50 Ω source impedance
Input/output HV protection	−300 V peak pulsed for pulse width 500 ns
Input impedance	550 Ω ±55 Ω
Output impedance	50 Ω ±5 Ω
Output voltage	4 Vpp nominal, 3.3 Vpp min. (at 50 Ω)
Crosstalk between channels	≥100 dB with 10 MHz sine wave

Table 4 Pulser specifications

Parameter	Value
Output pulse voltage	−200 V ±20 V into 50 W
Output impedance	≤6 Ω
Input triggering voltage	−15 V to −200 V, protected up to −300 V
Input impedance	50 Ω ±5 Ω
Probe damping	Active, 50 Ω ±5 Ω

Table 4 Pulser specifications *(continued)*

Parameter	Value
Minimum pulse width	45 ns ±5 ns
Maximum pulse width	500 ns ±50 ns
Repeated pulse width error	±10 % for pulse width >50 ns, else ±5 ns with −50 V min. input trig. voltage
Maximum pulse repetition freq. (PRF)	5 kHz for 100 ns pulse width, both channels
	10 kHz for 100 ns pulse width, single channel
	20 kHz for 50 ns pulse width, single channel (0.1 % total maximum duty cycle)

4.3 Connector References

This section provides the following details for the 12 V IN, P, and R connectors on the TRPP 5810's front and back panels: a brief description, the manufacturer number, the number of the corresponding cable connector, an illustration, and a pinout table.

4.3.1 12 V IN Connector

The 12 V IN connector (see Figure 4-1 on page 36) is used to supply power to the TRPP 5810 unit.

Description

Receptacle with 2 female contacts

Manufacturer, number

W.W. Fischer Inc., D.103.A051-130
Evident, 21AB0133

Suggested cable connector

W.W. Fischer Inc., S.103.A051-60/6.2-S
Evident, 21AB0132

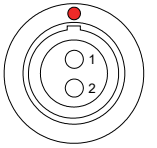

Figure 4-1 12 V IN connector

Table 5 Pinout for the 12 V IN connector

Pin	I/O	Signal	Description
1	Input	12 VDC	9 VDC to 14 VDC input (12 VDC nominal), 250 mA max.
2	N/A	GND	Ground

4.3.2 P and R Connectors

The P and R connectors on the TRPP 5810 unit (see Figure 4-2 on page 36) are used for pulser and receiver connections, coming from or going to the TOFD probes and an acquisition unit.

Description

Coaxial receptacle

Manufacturer, number

LEMO, EPS.00.250.NTN
Evident, 21AB0056

Suggested cable connector

LEMO, FFC.00.250.CTAC31
Equivalent: W.W. Fischer, S.101.A004/3.0
Evident, 21AB0016

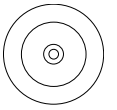

Figure 4-2 P and R connector

Table 6 Pinout for the P and R connectors

Connector	I/O	Description
P1 IN and P2 IN	Input	These P connectors are used to receive the signals of two acquisition-unit pulser outputs.
P1 OUT and P2 OUT	Output	These P connectors are used to transmit the signals to two conventional probes.
R1 IN and R2 IN	Input	These R connectors are used to receive the signals of two conventional probes.
R1 OUT and R2 OUT	Output	These R connectors are used to transmit the signals to two acquisition-unit inputs.

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