



USER MANUAL

CRYSTAL OSCILLATOR

rev 1.1

EDFelectronics

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1 INTRODUCTION

Please read this manual carefully to ensure optimum operating conditions right from the start. This user manual handbook contains important information about the functionality, installation, start-up and operation of the Quartz Monitor QM20 .

1.1 INTENDED TO USE

1.2 LIABILITIES AND WARRANTY

EDFelectronics company is not liable for damages resulting from improper use of the device and the guarantee expires, if the user, or third party:

- ignores information contained in this manual,
- utilizes the product in a manner inconsistent with intended purpose,
- makes any modification or alteration of the product,
- unit should not be used with unauthorized accessories (compatible accessories, types and models can be found in the product documentation)

EDFelectronics company reserves the right to make changes without prior notice. Illustrations may vary depending on the version of the device.

1.3 INSTRUMENT SAFETY

1.3.1 DEFINITION OF NOTES, CAUTIONS AND WARNINGS

When using this manual, please pay attention to the notes, cautions and warnings found throughout. For the purposes of this manual they are defined as follows:

NOTE: Pertinent information that is useful in achieving maximum QM20 efficiency when followed.

	CAUTION
	Indicates particularly important, but not safety-relevant information. Failure to heed these messages could result in damage to QM20 or the loss of data.

1.3.2 PERSONNEL QUALIFICATIONS

All work described in this document may only be carried out by persons who have suitable technical training and the necessary experience or who have been instructed by the end user of the product.

	WARNING
	<p>Failure to heed these messages could result in personal injury. Information on correct handling or use. Disregarding safety notes can lead to malfunctions.</p>

1.3.3 GENERAL SAFETY INSTRUCTIONS

	CAUTION
	<p>QM20-EO contains delicate circuitry, susceptible to transient power line voltages. Disconnect the power cord whenever making any sensor connections</p>

	CAUTION
	<p>QM20 may not be suitable for use with RF sputtering systems or other electrically noisy environments.</p>

For all work you are going to do, adhere to the applicable safety regulations. Also observe all safety notes given in this document and forward the information to all other users of the product.

1.4 UNPACKING INSPECTION

1. If the QM20-EO has not been removed from its packaging, do so now.
2. Carefully examine QM20-EO for damage that may have occurred during shipping. It is especially important to note obvious rough handling on the outside of the container. Immediately report any damage to the carrier and to EDFelectronics .

NOTE: Do not discard the packaging material until inventory has been taken and installation is successful.

3. Refer to the invoice and take inventory.
4. For additional information or technical assistance, contact EDFelectronics .



CAUTION

Do not open the instrument case! There are no user-serviceable components within instrument case



WARNING

Failure to operate QM20 in the manner intended by EDFelectronics can circumvent the safety protection provided by the instrument and may result in personal injury.

2 TECHNICAL DATA

2.1 External dimensions

The external oscillator and the dimensions shown below.

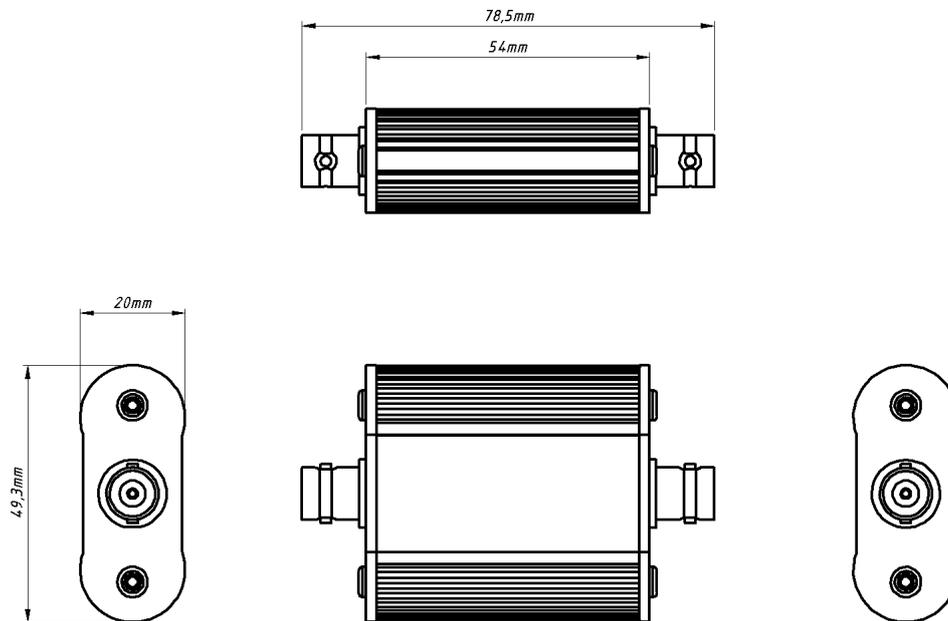


Figure 2.1: External dimensions External oscillator(EO)

2.2 External Oscillator

An external oscillator QM20-EO can be used for applications where QM20 must be located farther away from the feedthrough.

Connecting to the QM20 :

1. Connect one end of the oscillator cable(coaxial cable) to QM20 sensor connector.
2. Connect the other end of the oscillator cable(coaxial cable) to BNC connector on the external oscillator(QM20-EO) labelled **INSTRUMENT**
3. Connect one end of the 10cm BNC cable to the BNC connector on the external oscillator(QM20-EO) labelled **SENSOR**.
4. Connect the other end of the 10cm BNC cable to the BNC connector on the feedthrough



Figure 2.2: QM20-EO connectors



CAUTION

Proper crystal oscillator performance

- To maintain proper QM20 performance, use only the provided 15 cm BNC cable to connect the oscillator to crystal sensor. The length of the in-vacuum cable (Front Load and Sputtering sensors) or electrical conduit tube (Cool Drawer and Bakeable sensors) must not exceed 75cm.
- The maximum BNC cable length between crystal oscillator and QM20 is 10m.

3 STORAGE AND DISPOSAL

3.1 PACKING

Please retain the original packaging. The packaging is required for storing the device and for shipping it to an authorized service center.

3.2 STORAGE

The QM20 should only be stored in a dry room. The following requirements must be met:

PARAMETER	VALUE
Ambient temperature	-20...50°C
Humidity	as low as possible; preferably in an air-tight plastic bag with a desiccant

Table 3.1: Storage parameters

3.3 DISPOSAL

The product must be disposed of in accordance with the relevant local regulations for the environmentally safe disposal of systems and electronic components.

3.3.1 WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)

The use of the WEEE symbol indicates that this product may not be treated as household waste. By ensuring this product is disposed of correctly you will protect the environment. Recycling information of this product can be obtained at the place of sale, your household waste disposal service provider, or local authority.

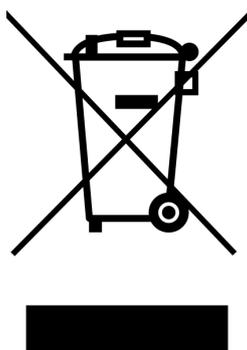


Figure 3.1: Waste Electrical and Electronic Equipment (WEEE) Symbol

4 WARRANTY CONDITIONS

EDFelectronics warrants to the purchaser or end user of the equipment it sells that such equipment will be free from defects in material and workmanship under normal use and service. This warranty is for a period of 27 months from the date of original shipment or two years (24 months) from the date the equipment is placed in use by the purchaser or end user thereof, whichever occurs first. This warranty is void if the equipment is not used, operated, and maintained in accordance with the manual accompanying the equipment. EDFelectronics shall not be responsible for any direct or indirect loss or damage resulting from accident, negligence of a user, alteration, abuse, or misuse of the equipment. Upon acceptance of this Limited Warranty, purchaser waives all warranties, guarantee, or remedies not specifically stated in this Limited Warranty. This warranty does not cover ordinary wear and tear or expendable components.

EDFelectronics obligation under this Limited Warranty is, at EDFelectronics option, to repair or replace any defective equipment or parts of the equipment, without charge to the purchaser, which are returned, shipping prepaid, to the EDFelectronics facility. For return or repair of equipment, purchaser must contact EDFelectronics for a Return Materials Authorization (RMA) prior to shipment of the equipment to EDFelectronics . If EDFelectronics has designated an Authorized Warranty Service Representative in the purchaser's country, contact may be made with the Authorized Warranty Service Representative and defective equipment may be delivered to such Authorized Warranty Service Representative to service warranty claims.

This warranty is in lieu of all other warranties, expressed or implied, including the implied warranties of merchantability and fitness for any particular purpose. The purchaser acknowledges the purchaser is not relying in EDFelectronics skill or judgment to select or furnish equipment suitable for any particular purpose.