

QDS

Quench Detection Sytem

**4-Channel Multi-Range Precision
Digital Quench Detection System**



User Interface Manual



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This product is  certified.



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Table Of Contents

- 1. INTRODUCTION.....5
 - 1.1 THE MAIN WINDOW5
 - 1.1.1 Options menu6
 - 1.1.2 Edit menu6
 - 1.2 ADDITIONAL FEATURES7
 - 1.2.1 Monitoring menu.....7
 - 1.2.2 Configuration menu9
 - 1.2.3 User Offset Correction menu 10



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1. Introduction

This chapter describes the main features of the *Device Manager* user interface for the QDS – Quench Detection System.

1.1 The main window

Figure 1 shows the main window of the *Device Manager* interface with the following features:

- 1) *Refresh button* – discover CAEN ELS devices on the network (broadcast);
- 2) *Device Info box* – summary of the main information about a CAEN ELS device;
- 3) *Options button* – Additional option (i.e. upgrade menu);
- 4) *Edit button* – change network configuration (IP, netmask and gateway);
- 5) *Additional Features* – monitoring and configuration tabs.

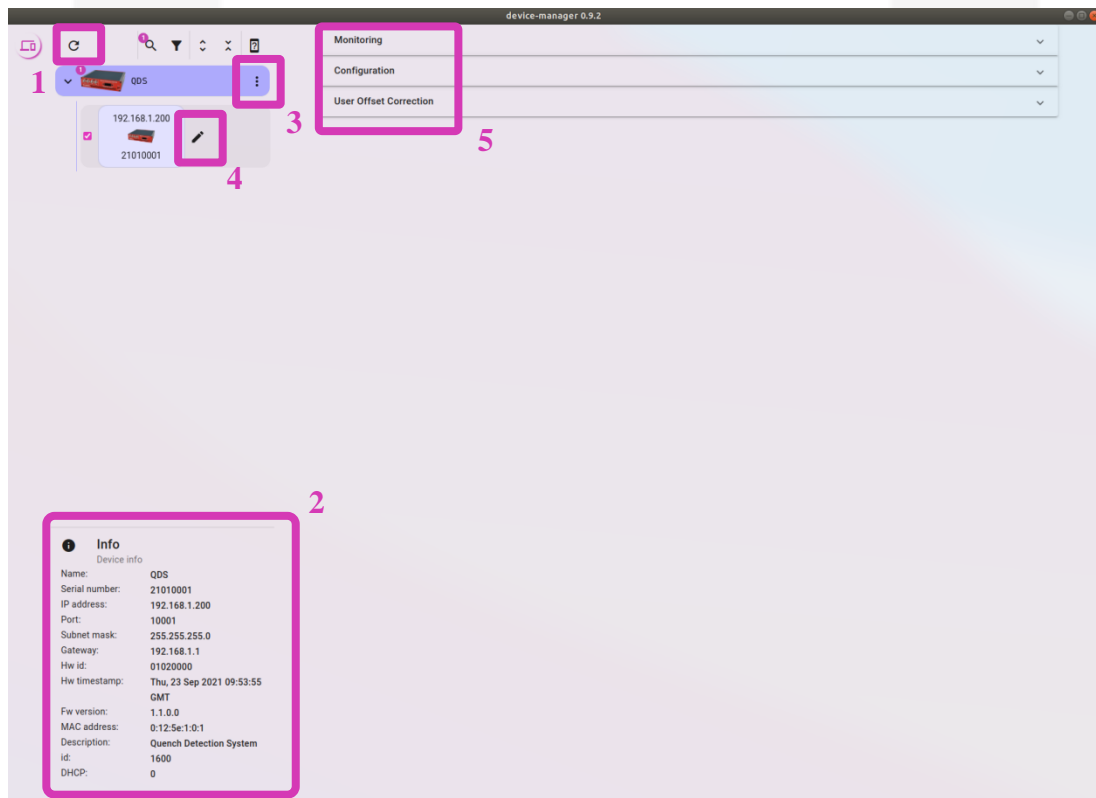


Figure 1: Main window

1.1.1 Options menu

From the “*options menu*” it’s possible to upgrade the device firmware. Follow the upgrade firmware guideline reported in the “*User’s Manual*” of the specific device.

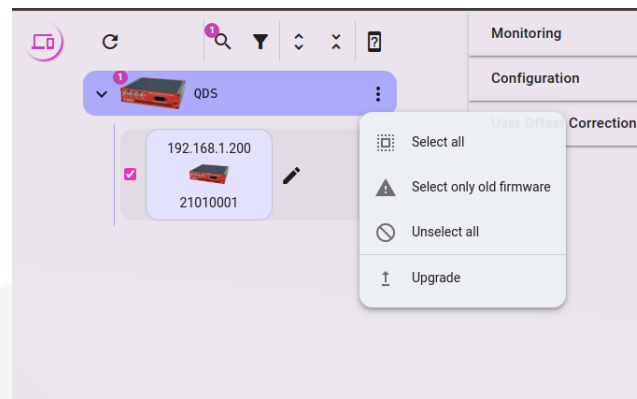


Figure 2: Options menu

1.1.2 Edit menu

Use the “*edit menu*” to change the main network parameters, such as IP, netmask and gateway addresses.

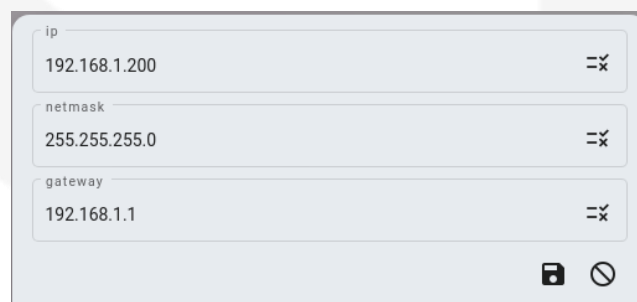


Figure 3: Edit menu

1.2 Additional Features

1.2.1 Monitoring menu

The “*Monitoring menu*” is the main window of the QDS device. Each channel is represented by a horizontal bar which can be highlighted in green (channel enabled), grey (channel disabled) or red (channel in fault condition).

The window has the following main characteristics:

- 1) These numbers indicate +Full Scale (*1a*) and -Full Scale (*1b*);
- 2) These are the real/time voltage readings in [V]. The dashed vertical bars (*2a*) indicate the thresholds positions with respect to the total length of the horizontal bar. The actual values of the thresholds are reported in red (*2b*) at the center of horizontal bar below the voltage reading;
- 3) This is one of the two clickable buttons of the monitoring window and can be used to Enable/Disable the *persistent switch heater*, OFF (0 [V]) or ON (12 [V] or 24 [V]);
- 4) This button has a double function: it indicates status of the QDS and it can be used to reset the status of the QDS. In normal operation (No fault condition) the icon is green (as in **Figure 4**), while in fault condition the icon becomes red (as reported in **Figure 5**). By clicking the “*reset fault*” button the fault conditions are cleared.

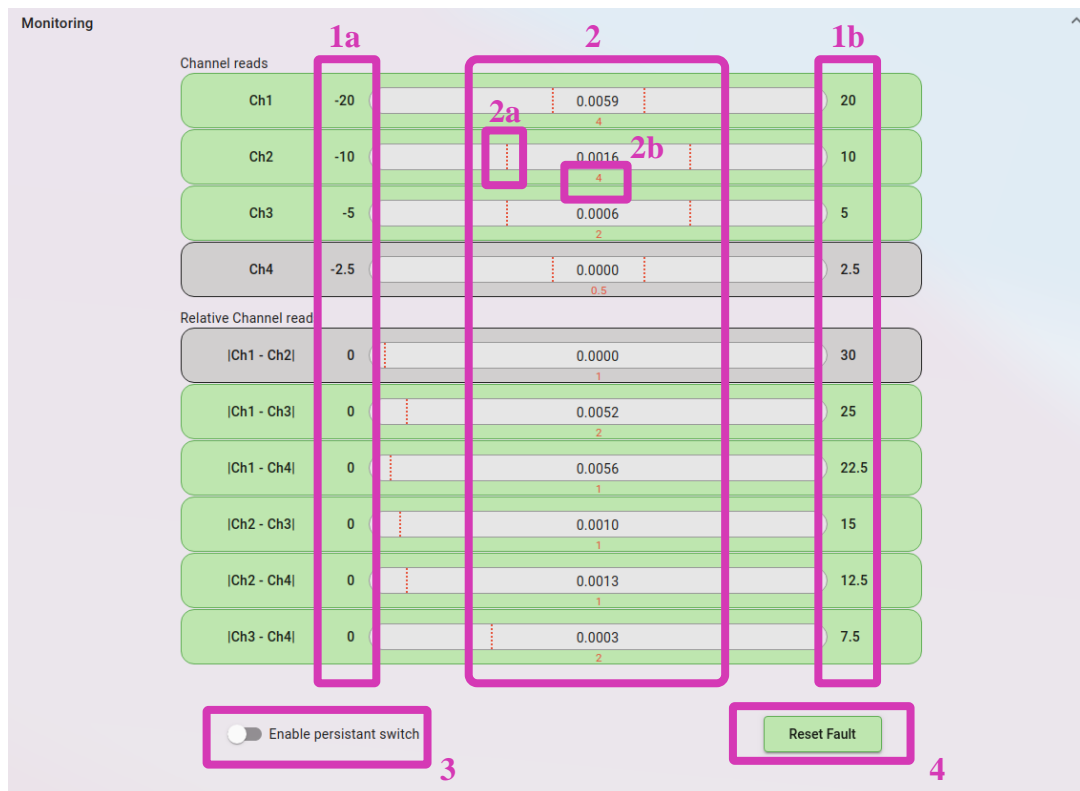


Figure 4: Monitoring menu



Figure 5: Monitoring menu in fault condition.

1.2.2 Configuration menu

Figure 6 shows the “*Configuration menu*” which can be used to configure all the main parameters of the QDS device. When changing a parameter, the new value is applied by pressing “enter” (on the keyboard) or by mouse-clicking on a random area of the configuration window.

On the configuration window the following configurations are available:

1. Enable the desired channels;
2. Select the range of the corresponding channel;
3. Indicates the full scale of the corresponding channel depending on the actual range;
4. Set the thresholds in [V];
5. Set the time windows in [ms].
6. *Store Configuration* button: saves enabled channels, thresholds and time windows in the non-volatile memory. The saved configuration will be loaded by default at the next start-up. **For safety reasons the range values are not saved in the volatile memory and the ranges are always set to range 0 at start-up;**
7. *Restore Default* button: restores default ranges, thresholds and time windows (see the “*Quench Detection System Commands Reference Manual*” for more information). This parameters are applied in real-time but not saved in the non-volatile memory. To save them use the *store configuration* button;

1	2	3	4	5	
ENABLE	CHANNEL	RANGE	FULLSCALE [V]	THRESHOLD [V]	TIME WINDOW [ms]
<input checked="" type="checkbox"/>	Ch1	Range [0] 20 V	20	4	10
<input checked="" type="checkbox"/>	Ch2	Range [1] 10 V	10	4	10
<input checked="" type="checkbox"/>	Ch3	Range [2] 5 V	5	2	10
<input type="checkbox"/>	Ch4	Range [3] 2.5 V	2.5	0.5	10
<input type="checkbox"/>	[Ch1 - Ch2]	Not Available	30	1	10
<input checked="" type="checkbox"/>	[Ch1 - Ch3]	Not Available	25	2	10
<input checked="" type="checkbox"/>	[Ch1 - Ch4]	Not Available	22.5	1	10
<input checked="" type="checkbox"/>	[Ch2 - Ch3]	Not Available	15	1	10
<input checked="" type="checkbox"/>	[Ch2 - Ch4]	Not Available	12.5	1	10
<input checked="" type="checkbox"/>	[Ch3 - Ch4]	Not Available	7.5	2	10

6

7

Figure 6: Configuration menu

1.2.3 User Offset Correction menu

The “*User Offset Correction*” menu allows the user to set an additional offset on specific channels and specific ranges (box 1 in **Figure 7**). Use the “*Enable user correction*” button (box 2 in **Figure 7**) to enable immediately the user correction offsets.

Use the “*Save user correction*” button (box 3 in **Figure 7**) to save the user correction offsets in the non-volatile memory ready to be loaded at the next start-up.

DESCRIPTION	CH1 Offset [V]	CH2 Offset [V]	CH3 Offset [V]	CH4 Offset [V]
Range 0	0	0	0	0
Range 1	0	0	0	0
Range 2	0	0	0	0
Range 3	0	0	0	0
Range 4	0	0	0	0
Range 5	0	0	0	0
Range 6	0	0	0	0
Range 7	0	0	0	0
Range 8	0	0	0	0
Range 9	0	0	0	0
Range 10	0	0	0	0

☐ Enable user correction

Save user correction

Figure 7: User Offset Correction menu