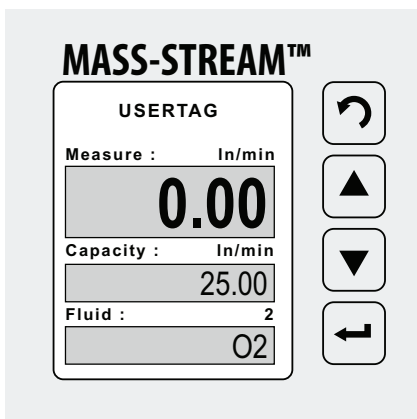


Multi Functional Display

MASS-STREAM™ D-6400



Manual

English

IMPORTANT!

Read carefully before use.
Keep for future reference.



Bronkhorst®

Table of Contents

1	Safety information	3
1.1	General safety information	3
1.2	Scope of this manual	3
1.3	Illustrations	3
2	Operation	4
2.1	Display overview	4
2.1.1	Navigation	4
2.2	Password protection	5
2.3	Restore factory settings	5
3	Menu overview	5
3.1	Settings menu	5
3.2	Menu Security	10

1 Safety information

1.1 General safety information

⚠ Please read this document and all other applicable documents carefully before installing and operating the product.

All instructions must be observed. Failure to comply with instructions may result in material damage and personal injury, including danger to life.

1.2 Scope of this manual

This manual covers the operation of the MASS-STREAM™ D-6400 using the integrated display (optional).

- ▶ Please read the Instruction Manual MASS-STREAM™ D-6400 before energizing and operating the instrument.

The latest version of the manual can be downloaded from the Bronkhorst® website.

- ▶ For the web address, see the back of this document.

1.3 Illustrations

The illustrations used in this manual are intended as general instructions for correct operation.

The illustrations may slightly differ from the actual situation due to certain product types or factory configurations.

2 Operation



All custom settings persist after unplugging the main connector or after a power loss.



When navigating through the menu, the digital communication via RS232 or fieldbus interface remains fully accessible.

2.1 Display overview



Display information is in English only.

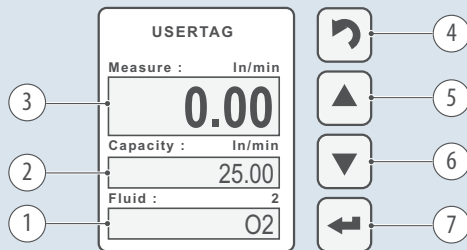


Fig. 1. Display - standard view

- | | |
|---------------------------|-----------------|
| 1. Info lower data field | 5. Up button |
| 2. Info middle data field | 6. Down button |
| 3. Info top data field | 7. Enter button |
| 4. Back button | |

2.1.1 Navigation

The buttons have the following functions:

Back Button ↶ [4]

- Return/ back
- Cycle through pre-settings in the lower data field

Up/Down button ⬆ [5 + 6]

- Navigating the menu items
- Selecting fields and characters

Enter button ↵ [7]

- Enter selected menu item
- Confirm selection/changes

2.2 Password protection

A password upon delivery protects the device from unauthorized operation and data entry via the local navigation buttons.

Factory default password is: **'abc'** followed by 5 x **↔** (blanks).

- ▶ Press the **↔** button to activate the screen.

When prompted with the password dialog.

- ▶ Select the correct character using the **⬆** buttons.
- ▶ Press **↔** to confirm, and move to the next position.
- ▶ After entering the last character of the password: press **↔** to confirm.

The default password can be changed in Special Mode (» par. 3.2, page 10). The password is up to 8 characters long, and only may contain the following characters:

- Small letters - a ... z
- Capital letters - A ... Z
- Numbers - 0 ... 9

2.3 Restore factory settings

The factory settings can be restored in the submenu Advanced (» Tab. 6, page 9).

3 Menu overview



Access to the settings menu, and the submenu Advanced can be disabled in the menu Security (» par. 3.2, page 10).

Many functions can be set and selected in the display menu of the product.

A limited feature set is also available in Bronkhorst® FlowWare software (e.g. Bronkhorst FlowSuite, FlowDDE).

3.1 Settings menu

In the settings menu (Settings) all basic functions can be set or activated in several submenu's:

- **Readout:** readout settings and fluid selection, » Tab. 1
- **Controller:** controller characteristics, » Tab. 2
- **Counter:** counter settings, » Tab. 3
- **Alarm:** alarm settings, » Tab. 4
- **Setup:** product info, display and bus settings, » Tab. 5
- **Advanced:** sensor settings, auto zero and restore factory settings, » Tab. 6

To enter the settings menu from the standard view:

- ▶ Press the **↔** button.

If prompted with the password dialog:

- ▶ Enter the password to enter the settings menu (» par. 2.2, page 5).
- ▶ Use the **⬆** buttons and the **↔** button to navigate and change the settings.
- ▶ To return to the standard view: press the **↻** button several times.

Menu overview

Menu Readout	Display	FlowWare
Readout		
<ul style="list-style-type: none"> Actual Percentage 	▪	
fluid selection		
fluid		
<ul style="list-style-type: none"> Gas 1 Gas ... Gas 8 	▪	▪
capacity kg/s		
<ul style="list-style-type: none"> User defined number 	Read Only	▪

Tab. 1. Menu - Readout

Menu Controller	Display	FlowWare
speed x		
<ul style="list-style-type: none"> User defined number 	▪	▪
slope sec		
<ul style="list-style-type: none"> User defined number 	▪	▪
mode		
<ul style="list-style-type: none"> analog input bus/rs232 rs232 fb ana slave analog slave fb slave valve open valve closed control idle setpoint 100% setpoint 0% 	▪	▪
pid controller		
pid-Kp x		
<ul style="list-style-type: none"> User defined number 	▪	▪
pid-Ti sec		
<ul style="list-style-type: none"> User defined number 	▪	▪
pid-Td sec		
<ul style="list-style-type: none"> User defined number 	▪	▪
response		
open from zero		
<ul style="list-style-type: none"> User defined number 	▪	▪
normal step		

Menu Controller		Display	FlowWare
	• User defined number	▪	▪
stable situation			
	• User defined number	▪	▪

Tab. 2. Menu - Controller

Menu Counter		Display	FlowWare
Mode			
	• up • off • up to limit	▪	▪
Reset			
	• automatic • manual	▪	▪
Unit			
	• ln • uls • m3s • m3n • dm3s • dm3n • ls • uln • cm3s • cm3n • mls • mln • mm3s • mm3n	▪	▪
Limit			
	• User defined number	▪	▪
Setpoint step			
	• no • yes	▪	▪
Setpoint %			
	• User defined number	▪	▪

Tab. 3. Menu - Counter

Menu Alarm		Display	FlowWare
Mode			
	<ul style="list-style-type: none"> • off • power-up • response • min/max 	▪	▪
Reset			
	<ul style="list-style-type: none"> • automatic • manual 	▪	▪
Min Alarm %			
	<ul style="list-style-type: none"> • User defined number 	▪	▪
Max Alarm %			
	<ul style="list-style-type: none"> • User defined number 	▪	▪
Delay sec			
	<ul style="list-style-type: none"> • User defined number 	▪	▪
Setpoint step			
	<ul style="list-style-type: none"> • no • yes 	▪	▪
Setpoint %			
	<ul style="list-style-type: none"> • User defined number 	▪	▪

Tab. 4. Menu - Alarm

Menu Setup		Display	FlowWare
Info			
Usertag			
	<ul style="list-style-type: none"> • User defined data 	▪	▪
Serial		Read Only	
Model		Read Only	
Firmw instr		Read Only	
Customize			
Info top			
	<ul style="list-style-type: none"> • usertag • serial 	▪	
Info middle			
	<ul style="list-style-type: none"> • capacity • counter • valve • setpoint 	▪	
Setpoint			
		▪	

Menu Setup		Display	FlowWare
	<ul style="list-style-type: none"> step cursor 	▪	
	Readout digits		
	<ul style="list-style-type: none"> 1 ... 5 		
	Display		
	Brightness	▪	
	<ul style="list-style-type: none"> 0 ... 9 	▪	
	Screensaver	▪	
	<ul style="list-style-type: none"> on off 	▪	
	Delay min	▪	
	<ul style="list-style-type: none"> 01 ... 99 	▪	
	Bus		
	<ul style="list-style-type: none"> Bus 		Read Only
	Bus type, if applicable		Read Only
	<ul style="list-style-type: none"> Node address 	▪	▪
	<ul style="list-style-type: none"> User defined number 	▪	▪

Tab. 5. Menu - Setup

Menu Advanced		Display	FlowWare
	Sensor		
	dyn filter		
	<ul style="list-style-type: none"> User defined number 	▪	▪
	<ul style="list-style-type: none"> stat filter 		
	<ul style="list-style-type: none"> User defined number 	▪	▪
	Autozero		
	<ul style="list-style-type: none"> cancel start auto zero 	▪	▪
	Restore		
	<ul style="list-style-type: none"> cancel start restore 	▪	▪





Tab. 6. Menu - Advanced

3.2 Menu Security

In the security menu (Security) the password can be changed, and several menu items from the settings menu can be hidden or password protected. For these items, one of the following access modes can be set:

- **password:** menu item is password protected
- **disabled:** menu item is hidden.
- **enabled:** menu item is available (no password prompt).

To enter the menu Security from the standard view:

- ▶ Press  buttons simultaneously until prompted with the password dialog.
- ▶ Enter the password to enter the Security Menu (» par. 2.2, page 5).
- ▶ Use the  buttons and the  button to navigate and change the settings.
- ▶ To return to the standard view: press the  button several times.

Menu Security		Display	FlowWare
Edit setpoint			
	<ul style="list-style-type: none"> • password • disable • enable 	▪	
Reset counter			
	<ul style="list-style-type: none"> • password • disable • enable 	▪	
Reset alarm			
	<ul style="list-style-type: none"> • password • disable • enable 	▪	
Settings menu			
	<ul style="list-style-type: none"> • password • disable • enable 	▪	
Advanced			
	<ul style="list-style-type: none"> • password • disable • enable 	▪	
New password			
	<ul style="list-style-type: none"> • User defined 	▪	
	<ul style="list-style-type: none"> • Confirm 	▪	

Tab. 7. Menu Security





Original instructions • 9.17.164D • 2024-11



Service & Support



Contact



Product Info



Bronkhorst Instruments GmbH
Am Ziegelwerk 1
D-85391 Leonhardsbuch, Germany

+49 (0) 8166 9921 0
info.bhi@bronkhorst.com
www.bronkhorst.com