

# LoopView

## CURRENT LOOP INDICATOR – LOOPVIEW-N MODEL INSTRUCTION MANUAL V1.0x B



### SECURITY ALERTS

The symbols below are used throughout this manual to draw the user's attention to important information regarding safety and use of the device.

<b>CAUTION:</b> Read the manual thoroughly before installing and operating the device	<b>CAUTION OR DANGER:</b> Risk of electric shock

Safety recommendations must be followed to ensure user safety and to prevent damage to the device or system. If the device is used in a manner other than that specified in this manual, the safety protections may not be effective.

### INTRODUCTION

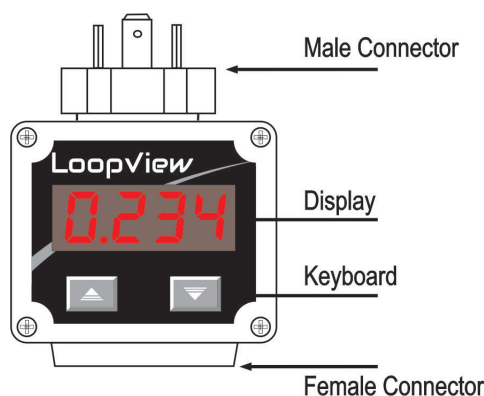
The **LoopView** indicator measures the electrical current circulating in a current loop and displays values proportional to the measured current. It obtains the electrical energy necessary for its operation from the electrical current circulating in the control loop, without affecting the value of this current.

**LoopView** is suitable to receive in its female connector 2-wire type transmitters (sink) whose connection is in DIN EN 175301-803 A standard.

The relationship between the measured current value and the respective value shown in the display is established by defining the **Indication Range**. For the definition of the indication range, the values to be shown in the display must be entered for the current value 4 mA (**mLL**) and the current value 20 mA (**mHL**).

### PRESENTATION

The indicator frontal panel can be seen in **Figure 01**:



**Figure 01** – Overview of LoopView

**Display:** It shows the measured variable, the configuration parameters and its respective values and conditions.

**Navigation Keys:** It allows you to change the parameters values and access the configuration cycles and calibration of the indicator.

### FUNCTIONAL FEATURES

**LoopView** has the following functional features:

- Adjustable indication range;
- Increasing or decreasing indication;
- Adjustable decimal point;
- Adjustable Offset;
- Adjustable digital filter;
- Display alarms: minimum value, maximum value or out of range values;
- Factory calibration repair;
- Configuration protection with password.

### OPERATION

By simultaneously pressing the keys + simultaneously, several configuration parameters will be displayed sequentially. The keys must be released in the desired parameter.

When you release the keys in the desired parameter, it will be displayed. Its current value is also displayed.

The + keys allow to make desired changes in current value of the parameter. To save the new set value, simply press the + keys simultaneously, returning to sequential display of the configuration parameters.

### STARTUP

**LoopView** must be installed in a previously validated process loop with a power supply and a properly operating 4-20 mA transmitter in order to establish an electrical current proportional to the measured variable (PV): temperature, pressure, flow rate, etc.

Under the above conditions, when the power supply is turned on, **LoopView** will display a value proportional to the measured electrical current and according to the current configuration. If necessary, a new configuration must be made at this time, align with process characteristics.

The configuration consists of setting appropriate values for the several parameters of the indicator that together determine its operation mode. The parameters are displayed in the same order as the indicator.

### CONFIGURATION PARAMETERS

<b>dP.Po</b>	<b>Decimal Point.</b> It allows you to determine the position of the decimal point the indication range configuration.
<b>mLL</b>	<b>Lower limit of the indication range.</b> It allows you to determine the value set for the display corresponding to the current value 4 mA.
<b>mHL</b>	<b>Upper limit of the indication range.</b> It allows you to determine the value set for the display corresponding to the current value 20 mA.

<b>OFFS</b>	<b>Offset.</b> Function that allows changes or corrections to the PV value displayed by the indicator.
<b>F ILt</b>	<b>Filter.</b> Parameter that defines the value of the filter applied to the signal processing. Used to improve the stability of the measured signal. Configurable with values between 0 and 9 (Value in seconds of the filter 1).
<b>FuRL</b>	<b>Alarm Function.</b> <b>LoopView</b> has the ALARM function to indicate that process critical PV values have been reached. When a PV value defined as critical is measured by the indicator, the display interpolates the presentation of PV value with <b>RL</b> message. The PV value critical to the process is set in <b>SPAL</b> parameter. Three alarm functions are available:
	<b>Lo</b> The display should indicate that the PV value is BELOW the critical value that has been set ( <b>SPAL</b> ).
	<b>HI</b> The display should indicate that the PV value is ABOVE the critical value that has been set ( <b>SPAL</b> ).
	<b>!Err</b> The display should indicate that the PV value is out of the defined measuring range.
	<b>oFF</b> Critical value indication is disabled.
<b>SPAL</b>	<b>Alarm Setpoint.</b> It allows you to set the PV value critical to the process used for alarm indication. This parameter will not be displayed when <b>Alarm Function</b> is set to <b>oFF</b> or <b>!Err</b> .
<b>PASS</b>	<b>Password.</b> It allows you to enter the access password. This will allow you to change the configuration parameters according to the protection rule set in the <b>Protection</b> parameter. Without the password, the configuration can only be viewed.
<b>CAL Ib</b>	<b>Enable Calibration.</b> It allows you to calibrate the indicator, showing the necessary parameters for the procedure ( <b>inLC</b> , <b>inHC</b> and <b>rStr</b> ).
	<b>no</b> Calibration disabled.
	<b>YES</b> Calibration enabled.
When the calibration is not enabled, the parameters related to this procedure will not be displayed.	
<b>inLC</b>	<b>Lower Calibration Value.</b> Declaration of the lower calibration value.
<b>inHC</b>	<b>Higher Calibration Value.</b> Declaration of the higher calibration value.
<b>rStr</b>	<b>Calibration Restore</b> It allows you to retrieve the last calibration performed.
	<b>no</b> Do not retrieve the last calibration.
	<b>YES</b> YES, retrieve the last calibration.
<b>PASC</b>	<b>Setting a new access password.</b> It allows you to set a new access password, always different from zero.

<b>Prot</b>	<b>Configuration protection.</b> It allows you to set the level of protection to be adopted by the indicator.	
	<b>1</b>	Only special parameters are protected.
	<b>2</b>	All parameters are protected.
<b>SnH</b>	<b>Indicator serial number (Higher part).*</b> HIGHER part of the indicator serial number.	
<b>SnL</b>	<b>Indicator serial number (Lower part).*</b> LOWER part of the indicator serial number.	

\* Serial number composition: 8888 8888 (**SnH SnL**)

## CONFIGURATION PROTECTION

The indicator allows the protection of the configuration created by the user, preventing improper changes in the values of the configuration parameters.

You can always view the parameters. To make changes, you must enter the password in the **PASS** parameter. You can change the parameters if the password is correct. You cannot make changes if the password is not correct.

**LoopView** allows two different levels of protection: Protection for all configuration parameters or protection for a special group of parameters, defined as Special Configuration Parameters. These parameters are always protected because they are relevant to the operation of the indicator.

CONFIGURATION PARAMETERS	
dPPo	
mLL	
mHL	
OFFS	
F ILt	
SPAL	
bLAL	
PASS	
CAL Ib	SPECIAL CONFIGURATION PARAMETERS
mLC	
mHC	
rStr	
PASC	
Prot	
SnH	
SnL	

Table 01 – Configuration parameters

The **Protection** parameter (**Prot**) determines the protection level to be adopted, according to the table below:

PROTECTION LEVEL	PROTECTED CYCLES
1	Only Special Configuration Parameters are protected. (Indicator factory setting condition).
2	All parameters are protected.

Table 02 – Configuration protection levels

### ACCESS PASSWORD

When accessed, the protected cycles require the **Access Password**. If entered correctly, the password will allow changes to be made to the configuration of the parameters of these cycles.

The access password must be entered in the **Access Password (PASS)** parameter, shown in the first of the protected cycles. Without the access password, the parameters of the protected cycles can only be viewed.

The indicator leave factory with the access password set to 1111.

### MASTER PASSWORD

The Master Password is intended for allowing the user to define a new password in the event of it being forgotten. The **Master Password** doesn't grant access to all parameters, only to the **Password Change** parameter (**PASC**). It enables you to set a new password for the indicator.

The master password is made up by the last three digits of the serial number of the controller **added** to the number 9000.

As an example, for the equipment with serial number 07154321, the master password is 9321.

The serial number of the indicator is available in the **SnH** and **SnL** parameters.

## ELECTRICAL CONNECTIONS

The indicator has standard EN 175301-803 (formerly DIN 43650) male and female connectors, located at the top and bottom of the device. It is also has internal protection against inversion of the polarity of the supply voltage.

Figure 02 shows the required connections:

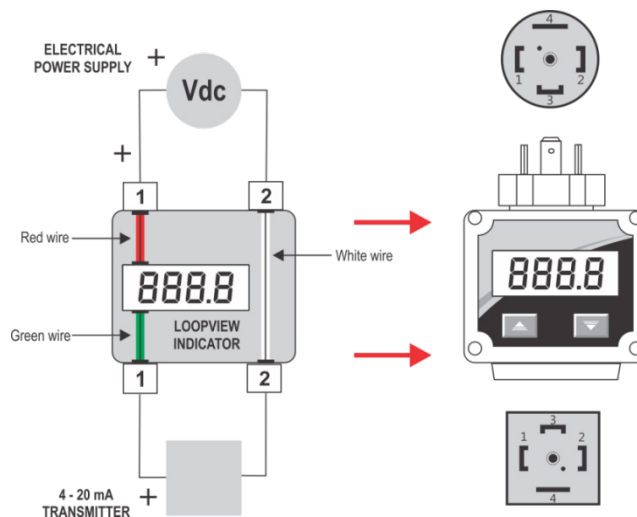


Figure 02 – Electrical connection

## RECOMMENDATIONS FOR THE INSTALLATION

Installation, operation, and maintenance must only be carried out by qualified personnel and in accordance with the information provided in this manual. Any deviation from these instructions will be the sole responsibility of the client.

Normal safety precautions should be taken to avoid the possibility of an accident occurring when operating under high pressure and/or high temperature conditions.

Do not connect the power supply until the entire installation is complete.

## CALIBRATION

The indicator leaves the factory calibrated and ready for use. Recalibration is a procedure that is not recommended for inexperienced operators.

You should consider using the recovery feature of the last performed calibration (**rStr**). If no other calibration has been performed, the factory calibration is still available.

If the calibration is actually required, you should proceed as follows:

1. Provide a power generator with accuracy compatible with the measurement accuracy specification of the indicator.
2. Connect the generator to the indicator according to **Figure 03**:

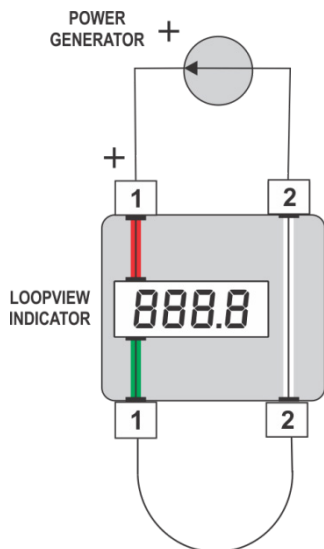


Figure 03 – Power generator

3. Set a current of 12 mA in the power generator.
4. Set a value for the **inLL** parameter (the value must be lower than the defined value set for **nHL**).
5. Enter the correct password.
6. Change the **PrOb** parameter to **2** and thus allow changes in all configuration parameters.
7. Change the **CAL Ib** parameter to **YES** and thus enable the calibration and its parameters.
8. Access the **inLE** parameter.
9. Set a current of 4 mA in the power generator.
10. Set the value of parameter **inLE** so that it reads -1999.
11. Access the **inHE** parameter.
12. Set a current of 20 mA in the power generator.
13. Set the value of **inHE** parameter so that it indicates 9999.
14. Validate the calibration mode.

## MECHANICAL INSTALLATION

Figure 04 provides information on the dimensions of the indicator:

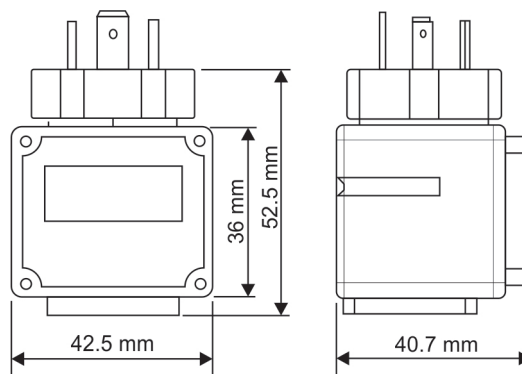


Figure 04 – Dimensions

## SPECIFICATIONS

**DIMENSIONS:**..... See **Figure 04**

Approximate Weight: .....54 g

### ENVIRONMENTAL CONDITIONS:

Operating Temperature: ..... -40 to 85 °C

**POWER SUPPLY** ..... Loop current 4 to 20 mA

**MAXIMUM LOOP CURRENT** ..... 60 mA

**INDICATION RANGE** ..... -1999 to 9999 / 9999 to -1999

**DISPLAY RESOLUTION** ..... 11998 levels (from -1999 to 9999)

**ACCURACY OF THE INDICATED VALUE** .....

.....0.1 % of span  $\pm$  1 digit (@ 25°C)

**SAMPLING RATE** ..... 100 ms

**THERMAL COEFFICIENT** ..... 0.005 % / °C of span

**VOLTAGE DROP AT THE INDICATOR:**.....

< 10 mA: ..... < 5.4 V

10 to 12 mA: ..... < 3.9 V

> 12 mA: ..... < 2.6 V

**HOUSING** .....ABS (Polyurethane gasket)

**PROTECTION** ..... IP65, NEMA4X

**CERTIFICATION** .....CE

## IDENTIFICATION

LoopView	Basic version
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## WARRANTY

Warranty conditions are available on our website [www.novusautomation.com/warranty](http://www.novusautomation.com/warranty).

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