

INSTRUCTION MANUAL

MP87700
MP87800



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WARRANTY

Our transmitters have a 5 year warranty.
Follow usage instruction in this manual.
In case of malfunction return to your supplier.

SPECIFICATIONS

GENERAL INTRODUCTION:

Our Microprocessor based transmitters are divided in the 2 wire headmount series Mp82000, the rail mount series Mp88000 and the 4 wire Mp87000. NOTE: Only the 4 wire transmitters are described in this manual! 4-wire transmitters have separate power and output signal, while 2-wire transmitters combine them over the same pair of wires.

All models are easily programmed via a personal computer with our "Point 'N Click" Software.

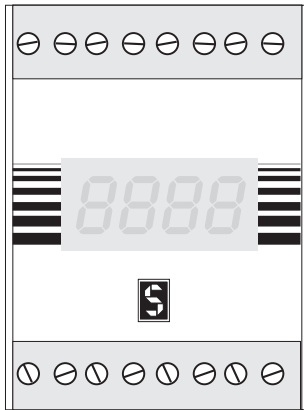
Type	headmount	railmount	2-wire	isolated	Pt100	Tc K/J/T/E	Other Tc	HART®	ATEX
Mp82700	•		•	•	•	•	•	•	•
Mp82800	•		•		•	•			•
Mp82800-R	•		•		•				•
Mp82850	•		•		•				
Mp88700		•	•	•	•	•	•	•	•
Mp88800		•	•		•	•			•
Mp88800-R		•	•		•				•
Mp87800		•			•	•			
Mp87700		•		•	•	•	•		

Specifications	Mp87800	Mp87700
Input	RTD: Pt100 T/C: K, J, T, E, N	RTD: Pt100, P1500, Pt1000 Ni100, Ni500, Ni1000, Cu10, Cu100 T/C: K, J, T, E, L, U, R, S, B, C, D, N Volt & Ohm
Minimum Span	RTD: 25 K T/C: 50 K	
Output	4...20 mA or 0...20 mA 0...1 V DC or 0...10 V DC	4...20 mA or 0...20 mA 0... 1 V DC or 0...10 V DC
Linearization	On / Off	On / Off
Supply	12, 24 or 48 VDC 12/ 24/ 115 / 230 V AC	12, 24 or 48 VDC, Polarity Protected 12/ 24/ 115 / 230 V AC
Supply effect	0.001% / V	0.001% / V
Zero Drift	$\pm 0.01\%/^{\circ}\text{C}$ or $\pm 0.02^{\circ}\text{C}/^{\circ}\text{C}$	$\pm 0.01\%/^{\circ}\text{C}$ or $\pm 0.02^{\circ}\text{C}/^{\circ}\text{C}$
Span Drift	$\pm 0.005\%/^{\circ}\text{C}$ or $\pm 0.01^{\circ}\text{C}/^{\circ}\text{C}$	$\pm 0.005\%/^{\circ}\text{C}$ or $\pm 0.01^{\circ}\text{C}/^{\circ}\text{C}$
Long term Drift	$\pm 0.05\%/year$	$\pm 0.05\%/year$
Cold Junction Drift	$\pm 0.01^{\circ}\text{C}/^{\circ}\text{C}$	$\pm 0.01^{\circ}\text{C}/^{\circ}\text{C}$
Excitation Current RTD	0.1 mA	0.1 mA
Sensor Lead Resistance RTD	500 Ohm max.	500 Ohm max.
Sensor Lead Resistance Effect	0.001 $^{\circ}\text{C}/\text{Ohm}$	0.001 $^{\circ}\text{C}/\text{Ohm}$
Sensor Lead Resistance T/C	10,000 Ohm max.	10,000 Ohm max.
Open Circuit Detection	Upscale or Downscale	Upscale 21.7mA or Downscale 3.7mA
Start Up Time	20 sec	20 sec
Warm Up Time	30-45 min	30-45 min
Isolation	none	500 V DC
Ambient Operating Temperature	-10 $^{\circ}\text{C}$...+70 $^{\circ}\text{C}$	-10 $^{\circ}\text{C}$...+70 $^{\circ}\text{C}$
Storage Temperature	-20 $^{\circ}\text{C}$...+100 $^{\circ}\text{C}$	-20 $^{\circ}\text{C}$...+100 $^{\circ}\text{C}$

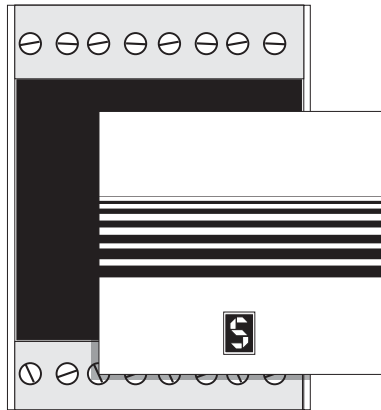
CONNECTIONS

Model 87000

Interface-connector inside. Connect as shown on labels.



appearance of model with display



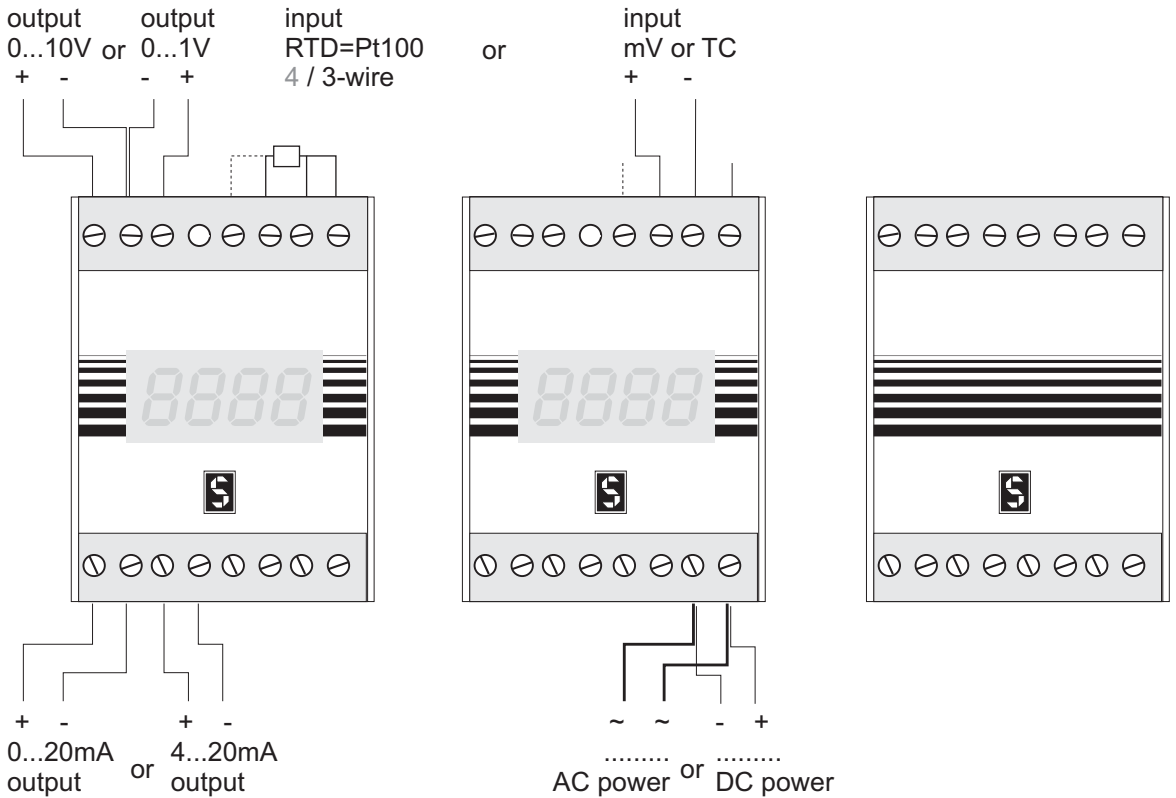
Front cover is removable on all types



labels



Mp87700 & Mp87800



General Instructions for the user

(not required for factory calibrated transmitters)

1. Insert the CD-ROM into your computer.
The Software will start automatically. (Or you may run SETUP.EXE)
Just follow the on-screen instructions.
Required is at least Windows 95 or NT and 1MB free space.

2. Connect the interface to the serial port of your computer.
(Usually COM1 or COM2; Default is set to COM2)
Attach the interface to the transmitter.
Start the installed S-PRO Mp - software by clicking the "S"-icon.
First click Upload to read the settings from your transmitter.
(Try again if you get a "communication error")
Select the required parameters and download these into the transmitter.
(See other side of the page for some extra information on the programm)
**NOTE: SOME LAPTOP COMPUTERS CANNOT SUPPLY ENOUGH POWER
TO PROGRAM THE TRANSMITTER. IN THESE CASES YOU WILL NEED
OUR ALTERNATIVE Mp-INTERFACE WITH BATTERY SUPPORT!**

3. After programming you may connect the transmitter as shown
in the connections drawing.
4. An optional display unit may be connected to the interface connector,
after connecting power and a sensor.



INSTALLATION INSTRUCTIONS MP87700, MP87800 and optional Display

The connections for the Mp87700/Mp87800 with and without Display are the same.
See the labels on the terminal blocks.

Power

1-2. Connect either AC power to 1 and 2 or DC power to 1 (+) and 2 (-).
Note label for correct power value and polarity.

Input

9-12. Connect the required input sensor or signal to the indicated terminals.
10 (-) and 11(+) for Thermocouple or mV; 9, 10 and 11 for Pt100.

Output

6-8, 13-16. Choose one of the output signals.

0...1V, 0...10V, 0...20mA or 4...20mA

Display (optional)

Default the display unit is connected!

If necessary connect the display to the red connector inside the transmitter.

Carefully bend the flatcable into position. The display doesn't require any additional power.

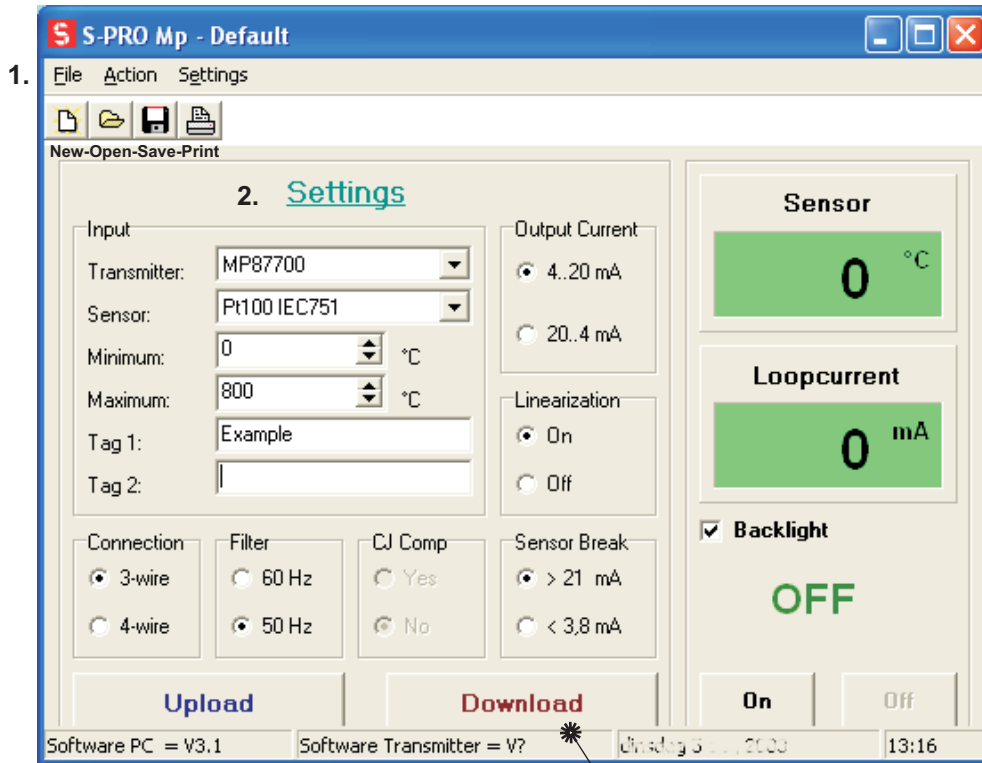
S-PRO Mp Software

General

This program uses the basic Windows® features like Save, Print, and Exit.

We refer to the Windows Help Manual for file handling.

Without a mouse you can reach the menu-items pressing both ALT and the underlined key. You can jump between the settings with TAB.



Note that you will only get a Sensor / Loopcurrent readout on screen if the transmitter is connected to a sensor.

3. On-Screen Readout

In the Sensor display you'll see the actual input value provided the programmed sensor is connected. Loopcurrent is a calculated value.

Click On to start and Off to quit the on-screen display. You must quit before changing settings.

1. File - Action - Settings

It is possible to save your settings for later use, to open a previous configuration or to print the present configuration. Either click on **F**ile or on one of the icons. The large Upload and Download buttons are also located under **A**ction. With a transmitter connected use **U**pload to find out the settings of your transmitter. After you made the required selections use **D**ownload to program the transmitter. **S**ettings is an important menu item. Here you can select °C or °F and the **C**OM port.

Upload : Read the configuration from the transmitter.
Download : Write your settings to the transmitter.

2. Settings

NOTE: Make sure to switch Off the on-screen readout, otherwise you can't alter the settings!

Transmitter : Select the transmittertype connected, or use Upload to find out.

Sensor : You may select the input sensor from a list. The choice is limited by the transmitter type. Thermocouple alloys are mentioned.

Minimum and Maximum : Input values for Output Current start and end. Default are the range minimum and maximum of the selected sensor.

Tag 1 and Tag 2 : Any comment you'd like to add. (max 16 characters)

Connection : The number of connections on your RTD sensor (i.e. Pt100).

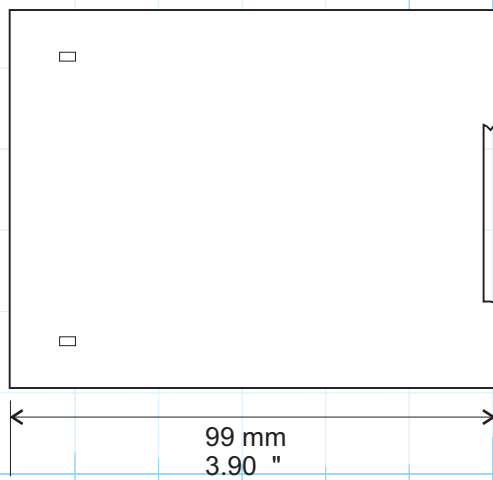
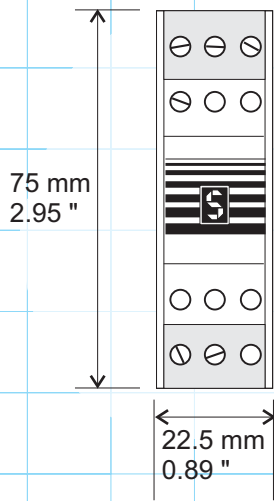
Filter : Set to 50 Hz for Europe and 60 Hz for USA.

CJ Comp : Cold Junction Compensation for Thermocouples

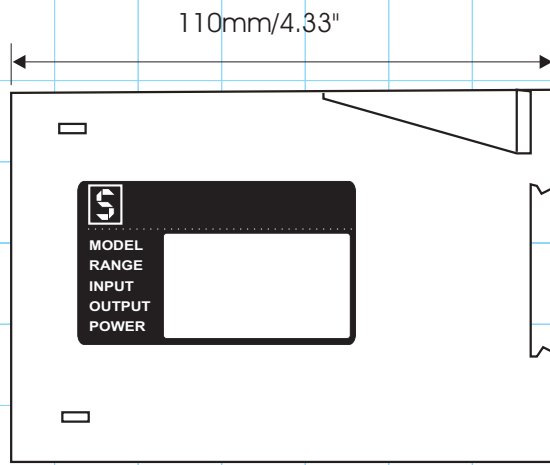
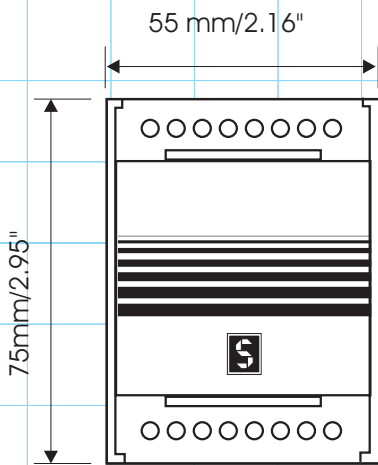
Sensor Break : Fixation of the loopcurrent on sensor malfunction.

Output Current : Choose min...max = 4...20 mA or 20...4 mA (Mp87000: The 0..1V/10V/0..20mA is automatic)

Linearization : Select On to linearize the input curve, or Off if you require the output curve to be the same as the input.



Mp88700 (H)
Mp88800 (-R)



Mp87000