Honeywell

SMV800 SmartLine Multivariable Transmitter
Quick Start Installation Guide

34-SM-25-04, Revision 4, September 2018

This document provides descriptions and procedures for the quick installation of Honeywell's family of SmartLine transmitters.
The SmartLine Multivariable transmitter is available in a variety of models for measuring differential pressure, static pressure, process temperature, volume and mass flow and Totalizer.

For full details refer to the manuals listed below for protocols, user Interface (HMI) operation, Installation, configuration, calibration, maintenance, parts, and safety and approvals etc. including options

Various other documents are available on the CD supplied with your shipment. Documents in hardcopy can also be ordered.
Copyrights, Notices and Trademarks.
Copyright 2018 by Honeywell
Revision 4, September 2018

Trademarks
SFC, SmartLine, ST 700, ST 800, STT850, STT750 and SMV800 are U.S. registered trademarks of Honeywell Inc.

HART® isTrademarks of FieldComm Group™

Documentation

To access complete documentation, including language variants, scan the QR code below using your smart phone/device or QR code scanner.

Go to the APP store for your free Smartphone QR scanner

Or you can follow the URL to access the online SmartLine HUB page.

The HUB page will contain direct links to open SmartLine product documentation.

URL
https://hwll.co/SmartLineHUB

QR Code

Table of Contents

Tables

Figures

Installation

Evaluate the site selected for the transmitter installation with respect to the process system design specifications and Honeywell's published performance characteristics for your model.
Temperature extremes can affect display quality. The display can become unreadable at temperature extremes; however, this is only a temporary condition. The display will again be readable when temperatures return to within operable limits.

Features and Options

The SMV800 is packaged in two major assemblies: the electronics housing and the meter body. The elements in the electronic housing respond to setup commands and execute the software and protocol for the different pressure measurement types. Figure 1 shows the assemblies in the electronics housing with available options.
The meter body provides connection to a process system. Several physical interface configurations are available, as determined by the mounting and mechanical connections.

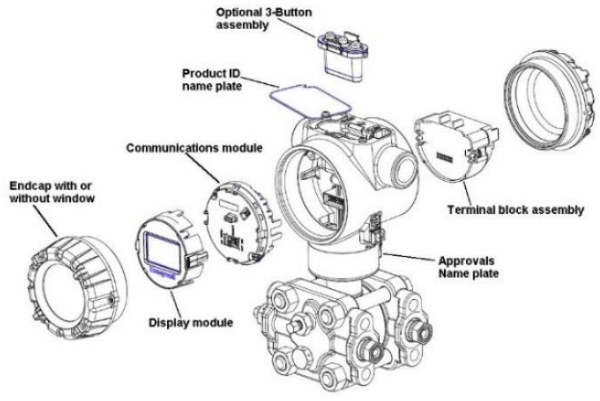


Figure 1: Electronic housing components

The SMV800 SmartLine multivariable transmitter measures differential pressure, static pressure (absolute or gauge), and process temperature. These measurements are used to calculate volumetric or mass flow rates. The measured values and calculated flow can be read by a connected Host.
Available communication protocols are Honeywell Digitally Enhanced (DE), HART and Modbus RTU. Digital or analog (4-20ma) output modes are available. The SMV800 measures process temperature from an external RTD or thermocouple.
Universal temperature input is available as a selectable feature with the device or as license enabled, field upgradable option.
With Modbus protocol, Flow calculation capability also is available as selectable feature with the device or as license enabled, field upgradable option while this is a standard feature with HART and DE protocols

Device Variables

SMV800 supports 6 device variables:

1. Differential Pressure
2. Static Pressure
3. Process Temperature
4. Calculated Flow Rate
5. Totalizer
6. Meter Body Temperature.

For DE transmitters, Differential Pressure, Static Pressure, Process Temperature or Flow may be assigned to analog output. In HART transmitters, Differential Pressure, Static Pressure, Process Temperature, Flow and Totalizer may be mapped to device variables PV (analog output), SV, TV or QV and Meter Body temperature may be mapped to SV, TV or QV. All six variables are Modbus process variables.

Mounting the Transmitter

Transmitter models can be attached to a two-inch (50 millimeter) vertical or horizontal pipe using Honeywell's optional angle or flat mounting bracket; alternately you can use your own bracket.

Typical bracket mounted installations

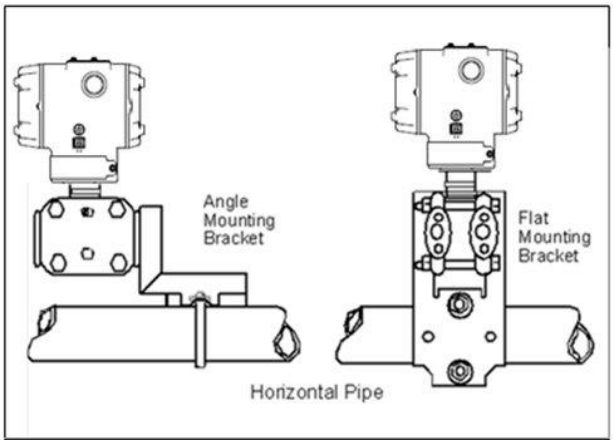


Figure 2: Mounting brackets

Bracket mounting

Mounting bracket, see Figure 3

Rotate the transmitter housing, see Figure 4

Level a transmitter with small absolute or differential pressure spans, see Figure 5

Mounting bracket

Position bracket on 2-inch (50.8 mm) and install "U" bolt around pipe and through holes in bracket. Secure with nuts and lock washers provided.

Figure 3 Example - Angle mounting bracket secured to horizontal or vertical pipe.

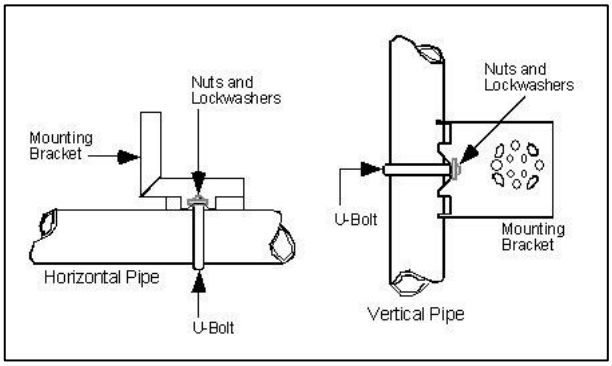


Figure 3: Angle mounting bracket

Rotating Transmitter Housing

Use a 2mm hex wrench to loosen the set screw on outside neck of transmitter one full turn. Rotate the transmitter housing to a maximum of 180 degree increment in left or right direction from center to position you require and tighten set screw (1.46 to 1.68 Nm/13 to 15 lb-in).

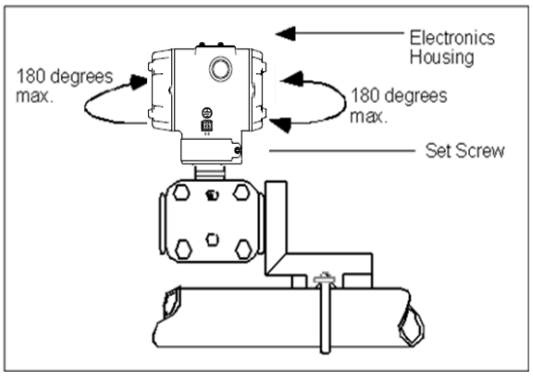


Figure 4: Rotating Transmitter Housing

Leveling Transmitters with Small Absolute or Differential Pressure Spans

Mounting position of these transmitters is critical due to the smaller transmitter spans.

To minimize these positional effects on calibration (zero shift), take the appropriate mounting precautions that follow for the given transmitter model.

See figure Figure 5 for suggestions on how to level the transmitter using a spirit balance.

To perform a **Zero Trim** after leveling, refer Trim the transmitter.

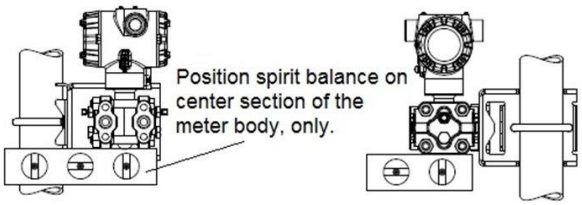


Figure 5: Using level to mount transmitter

For a model SMA810 or SMA845 transmitters, you must ensure that the transmitter is vertical when mounting it. You do this by leveling the transmitter side-to-side and front-to-back.

Mount transmitter vertically to assure best accuracy. Position a spirit balance on pressure connection surface of AP body.

Conduit Entry Connectors, Plugs and Adapters

Procedures

It is the user/installer's responsibility to install the transmitters in accordance with national and local code requirements. Conduit entry plugs and adapters shall be suitable for the environment, shall be certified for the hazardous location when required and acceptable to the authority having jurisdiction for the plant.

CONDUIT ENTRY PRECAUTIONARY NOTICE

THE CONDUIT/CABLE GLAND ENTRIES OF THIS PRODUCT ARE SUPPLIED WITH PLASTIC DUST CAPS WHICH ARE NOT TO BE USED IN SERVICE.
IT IS THE USER'S RESPONSIBILITY TO REPLACE THE DUST CAPS WITH CABLE GLANDS, ADAPTORS AND/OR BLANKING PLUGS WHICH ARE SUITABLE FOR THE ENVIRONMENT INTO WHICH THIS PRODUCT WILL BE INSTALLED. THIS INCLUDES ENSURING COMPLIANCE WITH HAZARDOUS LOCATION REQUIREMENTS AND REQUIREMENTS OF OTHER GOVERNING AUTHORITIES AS APPLICABLE.

Use the following procedures for installation.

Table 1: Conduit entry connectors and plugs

Step	Action			
1	Remove the protective plastic cap from the threaded conduit entry.			
2	To ensure the environmental ingress protection rating on tapered (NPT), a non-hardening thread sealant may be used.			
3	Thread the appropriate size conduit connector or plug (M20 or ½" NPT) into the conduit entry opening. Do not install conduit entry connectors or plugs in conduit entry openings if adapters or reducers will be used.			
4	Tighten plugs per the following table.			
	Description	Tool	Torque	
	M20 Conduit Entry	10mm Hex Wrench	32 Nm	24 Lb-ft
	½" NPT Conduit Entry	10mm Hex Wrench	32 Nm	24 Lb-ft

Table 2 - Conduit Adapters

Step	Action			
1	Remove the protective plastic cap from the threaded conduit entry.			
2	To ensure the environmental ingress rating on tapered threads (NPT), a non-hardening thread sealant may be used.			
3	Thread the appropriate size adapter (M20 or ½ NPT) into the conduit entry opening			
4	Tighten adapters as per the following table.			
	Description	Tool	Torque	
	½ to ¾ NPT Adapter	1 ¼" Wrench	32Nm	24Lb-ft

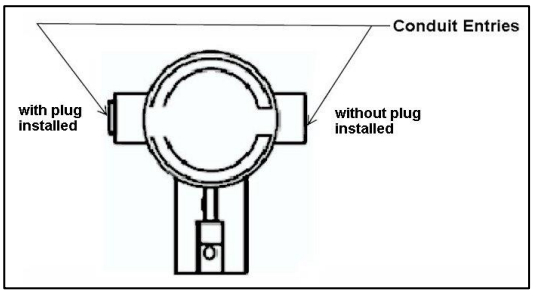


Figure 6: Electronic Housing Conduit Entries

Note. No conduit connectors or plugs come installed in the housings. All housings come with temporary plastic dust protectors (red) installed and are not certified for use in any installation.

Wiring Connections and Power Up

Summary

The transmitter (HART/DE) is designed to operate in a two-wire power/current loop with loop resistance and power supply voltage within the HART/DE operating range shown below.

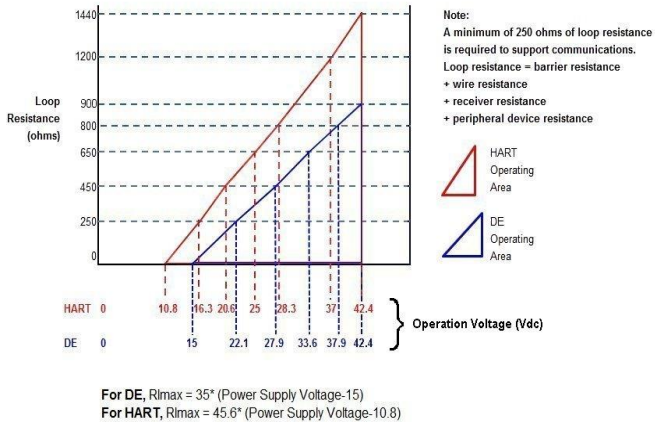


Figure 7: Two-wire power/current loop

A minimum of 250 ohms of loop resistance is required to support communications. Loop resistance = barrier resistance., + wire resistance, =receiver resistance, +peripheral device resistance

Loop wiring is connected to the transmitter by attaching the positive (+) and negative (–) loop wires to the positive (+) and negative (–) terminals on the transmitter terminal block in the electronics housing shown in Figure 8. Connect the loop power wiring shield to earth ground only at the power supply end.

Supply Voltage for SMV Modbus

Modbus (RS-485) Models: 9.5 V to 30 Vdc at terminals.

Power Consumption: Average power consumption is 70 mW at 9.5 V Supply. This includes RS-485 communication at 9600 baud rate at a rate of once per second without termination at room temperature.

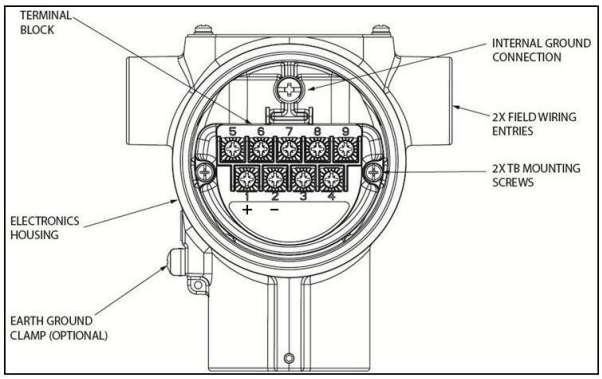


Figure 8: Terminal Block and Grounding Screw location

As shown above, each transmitter has an internal terminal to connect it to earth ground. Optionally, a ground terminal can be added to the outside of the Electronics Housing.
Screw terminals 1, 2, 3, 5, 6, 7 & 8 only required for single input, terminals 4 and 9 are only used for a Modbus device

CAUTION: For proper operation of the transmitter, grounding of the transmitter is mandatory. This minimizes the possible effects of noise on the output signal and affords protection against lighting and static discharge

An optional lightning terminal block can be installed in place of the non-lightning terminal block for transmitters that will be installed in areas that are highly susceptible to lightning strikes. As noted above, the loop power wiring shield should only be connected to earth ground at the power supply end.

Wiring must comply with local codes, regulations and ordinances. Grounding may be required to meet various approval body certification, for example CE conformity. Refer to Appendix A of this document for details.

The HART/DE transmitter is designed to operate in a 2-wire power/current loop with loop resistance and power supply voltage within the operating range; see Figure 7.

With an optional remote meter (for HART/DE), the voltage drop for this must be added to the basic power supply voltage requirements to determine the required transmitter voltage and maximum loop resistance. Additional consideration is required when selecting intrinsic safety barriers to ensure that they will supply at least minimum transmitter voltage, including the required 250 ohms of resistance (typically within the barriers) needed for digital communications.

Wiring Variations

The above procedures are used to connect power to a transmitter. For loop wiring and external wiring, detailed drawings are provided for transmitter installation in
non-intrinsically safe areas and for intrinsically safe loops in hazardous area locations.
This procedure shows the steps for connecting power to the transmitter.

Input Sensor Wiring

Connect the input sensors as shown in Figure 9 below:

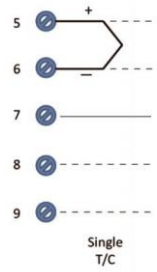


Figure 9: Thermocouple connections

RTD Connections

- Resistance temperature detector (RTD) measurements use the 3 or 4 wire approach. The transmitter determines by itself if a 3 or 4 wire RTD is connected when powered up.

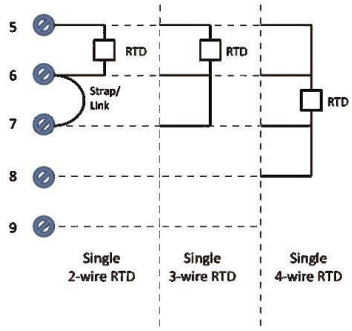


Figure 10: RTD connections

Loop Wiring (HART/DE)

Step	Action
1	See Figure 8, above, for parts locations.
2	Remove the end cap cover from the terminal block end of the electronics housing.
3	Feed loop power leads through one end of the conduit entrances on either side of the electronics housing. The transmitter accepts up to 16 AWG wire. Shield of the cable to be grounded on the supply/host side.
4	Connect the positive loop power lead to the positive (+) terminal and the negative loop power lead to the negative (-) terminal. Note that the transmitter is not polarity-sensitive.
5	Feed input sensor wires through the 2nd conduit entrance and connect wire.
6	Replace the end cap, and secure it in place.

Power Supply Wiring (Modbus) Procedure

1. See Figure 8, above, for parts locations. Loosen the end cap lock us a 1.5 mm Allen wrench.
2. Remove the end cap cover from the terminal block end of the electronics housing.
3. Feed twisted pair shielded power supply leads through one end of the conduit entrances on either side of the electronics housing. The transmitter accepts up to 16 AWG wire. Shield of the cable to be grounded on the Supply/Host side.
4. Connect the positive power supply lead to the positive (+) terminal (Terminal #1) and negative power supply lead to the negative (-) terminal (Terminal #2). Note that the transmitter is not polarity-sensitive.
5. Modbus communication wires can be fed through the same conduit that is being used for feeding power supply inputs. For details related to Modbus connection refer to Table 3 and the section on SMV Modbus Half-Duplex Modbus (RS-485) Wiring Procedure.
6. Feed input sensor wires through the 2nd conduit entrance and connect wire.
7. Replace the end cap, and secure it in place.

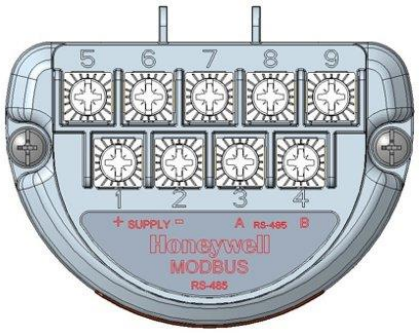


Figure 11: Wiring details for SMV Modbus Terminal block

Table 3: Wiring details for SMV Modbus Terminal block

Terminal Number	Description
1	Power Supply input +ve
2	Power Supply input -ve (Return)
3	Modbus (RS-485) A
4	Modbus (RS-485) B
5	Temperature Sensor Input
6	Temperature Sensor Input
7	Temperature Sensor Input
8	Temperature Sensor Input
9	Modbus (RS-485) Common

If a SMV Modbus transmitter is directly hooked up to DC distributed lines, it is mandatory to use transmitters with lightening protection option.
A wire from the earth ground clamp (ref. **Figure 8**) of transmitter must be connected to earth ground to make the lightening protection effective. Use a size 8 AWG or (8.37mm^2) bare or green covered wire for this connection.

SMV Modbus Half-Duplex Modbus (RS-485) Wiring Procedure

The Modbus A, Modbus B & Modbus Common inputs are applied to terminals Terminal #3, Terminal #4 & Terminal #9 respectively.
A 3-wire approach for Modbus communication is recommended to avoid potential difference related issues and to ensure error-free communication between drivers and receivers. For Modbus communication, minimum 24 AWG shielded twisted pair cable with nominal characteristic impedance of 120 ohms is recommended. Shield of the communication cable must be connected to chassis ground on host side.

Modbus RS-485 network recommends to use Termination on either side of the network. Typically, 120 ohm DC termination on either ends (Host side & at last device) are provided.

Alternately “AC Termination” feature can be enabled internal to the device (refer Figure 12, Table 3), when transmitter is the last device in the network. In this case, external termination (if any) at the transmitter end needs to be removed.

Multiple termination (apart from both ends of the network), can cause communication failure. For improved performance, DC termination is recommended.

Ensure Power lines & Modbus Communication lines are not swapped during installation/maintenance.

SMV Modbus Transmitter Connection to a PC based Modbus (RS-485) Host

For configuration of the Transmitter using Laptop/PC based application following wiring recommendation are to be followed:

- Supply voltage (9.5V to 30V DC) is to be fed between Terminal #1 & Terminal #2.
- Sensor inputs can be connected on Terminal #5 to Terminal #8 as per the Sensor type
- Isolated USB to RS-485 adaptor is recommended for connecting between PC based Host and Transmitter

Before connecting to the PC based Host the device needs to be disconnected from external host (if any).

Isolated RS-485 USB adaptor is recommended when connecting the transmitter to PC.

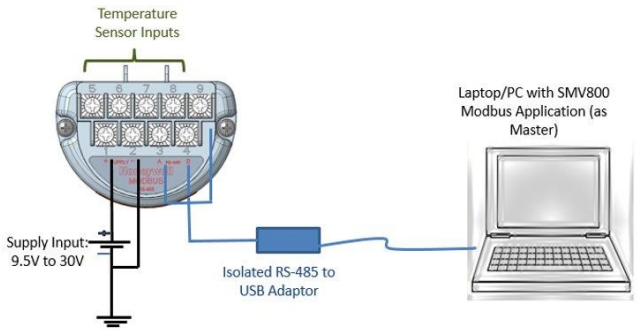


Figure 12: Transmitter configuration via Modbus (RS-485) network port
(Refer to Table 3: Wiring details for SMV Modbus Terminal block)

ATTENTION: *Please take appropriate steps to avoid ESD damage; the integrated circuits in the Transmitter PWAs are vulnerable to damage by stray static discharges.*

Explosion-Proof Conduit Seal

When installed as explosion proof in a Division 1 Hazardous Location, keep covers tight while the transmitter is energized. Disconnect power to the transmitter in the non-hazardous area prior to removing end caps for service.

When installed as non-incendive equipment in a Division 2 hazardous location, disconnect power to the transmitter in the non-hazardous area, or determine that the location is non-hazardous before disconnecting or connecting the transmitter wires.

Transmitters installed as explosionproof in Class I, Division 1, Group A Hazardous (classified) locations in accordance with ANSI/NFPA 70, the US National Electrical Code, with ½ inch conduit do not require an explosionproof seal for installation.
If ¾ inch conduit is used, a LISTED explosionproof seal to be installed in the conduit, within 18 inches (457.2 mm) of the transmitter.

Trim the transmitter

Procedure to trim the transmitter

For a transmitter with a small differential pressure span, you must ensure that the transmitter is vertical when mounting it. You do this by leveling the transmitter side-to-side and front-to-back. See Figure 5 for suggestions on how to level the transmitter using a spirit balance. You must also zero the transmitter by following the steps in this table.

Step	Action
1	Attach the transmitter to the mounting bracket but do not completely tighten the mounting bolts
2	Connect a tube between the input connections in the high pressure (HP) and low pressure (LP) heads to eliminate the effects of any surrounding air currents.
3	Connect 24 Vdc power to the transmitter. For HART/DE, connect a digital voltmeter to monitor the PV output.
4	Use applicable communicator to establish communications with the transmitter. For DE transmitter use the SmartLine Configuration Toolkit (SCT3000). For HART, use MCT404-FDC application or other HART Communicator with applicable Honeywell DD's. For MODBUS, use Honeywell’s Modbus host.
5	While reading the transmitter’s output on a communication tool or a voltmeter, position the transmitter so the output reading is at or near zero, and then completely tighten the mounting bolts.
6	The local display or applicable communicator can be used to perform the zero corrects. This corrects the transmitter for any minor error that may occur after the mounting bolts are tightened.
7	Remove the tube from between the input connections, the power, and the digital voltmeter or communication tool.

SET JUMPERS FOR HART/DE

Setting failsafe direction and write protect jumpers

The SmartLine Multivariable transmitter (DE or HART) provides two jumpers to set the desired failsafe action and write protect option. See Figure 13.
The top jumper on the electronics module sets the failsafe direction. The default setting is up-scale failsafe.
Upscale drives the loop to a value greater than 21mA while down scale drives the loop to a value less than 3.8mA.
You can change the failsafe direction by moving the failsafe jumper (top jumper) to the desired position (UP or DOWN).
The bottom jumper sets the write protect.
The default setting is OFF (Un-protected).
When set to the ON (Protected) position, changed configuration parameters cannot be written to the transmitter.
When set to the OFF (Un-protected) position, changed configuration parameters can be written to the transmitter.

***ATTENTION**: Electrostatic Discharge (ESD) hazards. Observe precautions for handling electrostatic sensitive devices.*

Step	Action
1	*Turn OFF transmitter power.*
2	*Loosen the end-cap lock, and unscrew the end cap from the electronics side of the transmitter housing.*
3	*If applicable, carefully depress the tabs on the sides of the display module and pull it off.* *If necessary, move the interface connector from the communication module to the display module to provide the preferred orientation of the display module in the window.*
4	*Set the failsafe jumper (top jumper) to the desired action (UP or DOWN). And the write protect jumper (Bottom jumper) to the desired behavior (Protected or Unprotected) See Figure 14 for jumper positioning.*
5	*Screw on the end cap and tighten the end-cap lock.*
6	*Turn ON transmitter power.*

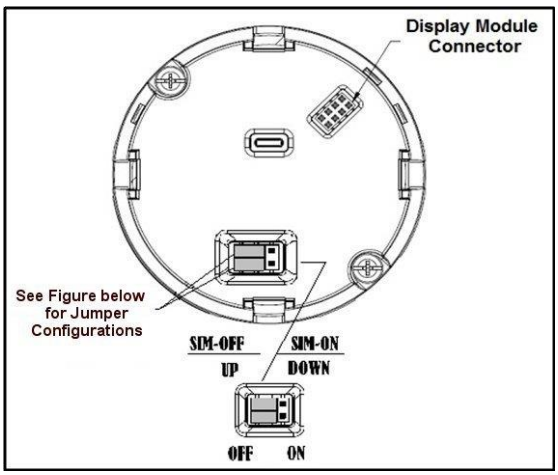


Figure 13: Jumper location HART

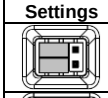
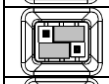
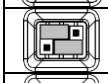
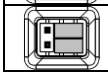
Jumper Settings	Description
	*Failsafe = UP (High)* *Write Protect = OFF (Not Protected)*
	*Failsafe = DOWN (Low)* *Write Protect = OFF (Not Protected)*
	*Failsafe = UP (High)* *Write Protect = ON (Protected)*
	*Failsafe = DOWN (Low)* *Write Protect = ON (Protected)*

Figure 14: Jumper settings HART

Set of Jumpers for Modbus

The SmartLine Multivariable Modbus transmitter provides two jumpers to set the desired AC Termination setting and write protect option. See Figure 15.

***ATTENTION**: Electrostatic Discharge (ESD) hazards. Observe precautions for handling electrostatic sensitive devices*

Step	Action
1	*Turn OFF transmitter power.*
2	*Loosen the end-cap lock, and unscrew the end cap from the electronics side of the transmitter housing.*
3	*If applicable, carefully depress the tabs on the sides of the display module and pull it off.* *If necessary, move the interface connector from the communication module to the display module to provide the preferred orientation of the display module in the window.*
4	*Set the AC Termination jumper to the desired action and the write protect jumper to the desired behavior (See Figure 15 for jumper positioning.*
5	*Screw on the end cap and tighten the end-cap lock.*
6	*Turn ON transmitter power.*

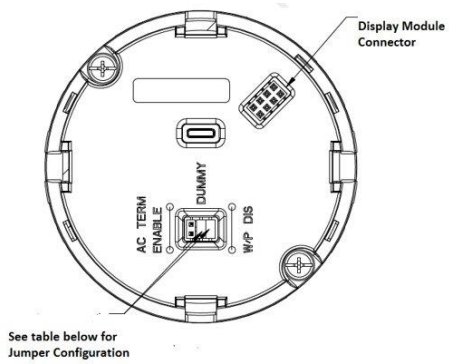
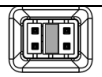


Figure 15: Loading AC termination enable and write protect jumper for Modbus (RS-485)

Table 4: AC Termination and Write Protect Jumpers for Modbus

Jumper Arrangements	Description
	AC termination = OFF (Disabled) Write Protect = OFF (Not Protected)
	AC termination = ON (Enabled) Write Protect = OFF (Not Protected)
	AC termination = ON (Enabled) Write Protect = ON (Protected)
	AC termination = OFF (Disabled) Write Protect = ON (Protected)

Configuration Guide

Table 5 shows the transmitter display configuration.

Key

Parameters in Italics are read-only.

* HART only

** HART and DE

*** HART and Modbus

Pressure Parameters
Temperature Parameters
Common Parameters
Flow Parameters
Totalizer Parameters

Table 5: Advanced Display Configuration

Diagnostics	Critical	*Active Diags*
		Meter Body
		Meter Body Comm
		Temp Sensor Board
		Temp Input
		Temp Sensor Comm
		Comm Module
		Comm VCC Fault

Diagnostics	Non-Critical	*Active Diags*
		*Analog Out Mode ** *
		Write Protected (Only Modbus)
		DP Zero Correct
		DP Span Correct
		Meter Body Input
		Meter Body Temp
		Meter Body Comm
		*Pressure Fac Cal ****
		Temp Cal Correct
		Temp Module Temp
		Temp Input Range
		CJ Range
		Temp Input
		Temp Input TB6
		Temp Fac Cal
		Temp Comm

Diagnostics *(continued)*	Non-Critical	*PV Out of Range ** *
		*Comm Module Temp ** *
		Supply Voltage
		*DAC Temp Comp ** *
		Display Setup
		Flow Divide by 0
		Flow Sqrt of Neg
		Flow Direction
		Flow SP/PT Comp
		*Totalizer Max ****
		*Totalizer Status ****
		*Flow Output ****
		DP Sim ON/OFF
		SP Sim ON/OFF
		PT Sim ON/OFF
		Flow Sim ON/Off
		DP Out of Range (Modbus only)
		SP Out of Range (Modbus only)
		PT Out of Range (Modbus only)
		Flow Out of Range (Modbus only)
		MBT Out of range (Modbus only)

Display Setup	LCD Contrast	Set Contrast
	Common Setup	Set Password Language Screen Rotate Rotation Time
		DP Units SP Units
		Temp Units
		Mass Fl Units Vol Fl Units
		Totalizer Unit ***
		MBT Unit (Modbus only)

Display Setup *(continued)*	Screen 1 .. …to Screen 8	Screen Format PV Selection PV Scaling *** Display Units Custom Units *** Decimals Scaling Low Lim *** Scaling High Lim *** Scaling Unit *** Trend Hours Disp Low Lim Disp High Lim Scrn Custom Tag

Calibration	Set Time Stamp***	Hour, Minute, Year, Month, Day
	DP Zero Correct	Set Time Stamp Do DP Zero Correct
	DP LRV Correct	Set Time Stamp* Do DP LRV Correct
	DP URV Correct	Set Time Stamp Do DP URV Correct
	DP Reset Correct	Set Time Stamp Do DP Reset Correct
	SP Zero Correct	Set Time Stamp Do SP Zero Correct
	SP LRV Correct	Set Time Stamp Do SP LRV Correct
	SP URV Correct	Set Time Stamp Do SP URV Correct
	SP Reset Correct	Set Time Stamp Do SP Reset Correct
	Temp Cal Points **	Temp Cal Lo Pt ** Temp Cal Hi Pt **
	Temp Cal Lo Corr	Set Time Stamp Do Temp Cal Lo
	Temp Cal Hi Corr	Set Time Stamp Do Temp Cal Hi
	Temp Reset Corr	Set Time Stampv Reset Temp Corr
	DAC Trim **	Trim Zero ** Trim Span ** Set DAC Normal **
	Loop Test **	Set DAC Output ** Set DAC Normal **

Device Setup	Device Setup	Tag ID Loop Source ** NAMUR Output **
	HART Setup*	*Device ID* *Universal Rev* *Field Device Rev* Final Assy Num Loop mA Poll Address
	Modbus Setup* (Modbus only)	*Slave ID* *Baud Rate* Final Assy Num Turn Around Delay Parity
	HART Date*	Year, Month, Day, Write Date
	Modbus Date (Modbus only)	Year, Month, Day, Write Date
	Dev Instl Date	Year, Month, Day, Instal Date, Write Date
	Pres Sens Instl (Modbus only)	

Pressure Setup	Pressure Params	Device DP Unit Device SP Unit MBT Unit DP Damping sec SP Damping sec Transfer Function ** Filter Perform ***
	DP LRV	DP LRV (in preferred unit)
	DP URV	DP URV(in preferred unit)
	Set DP LRV **	Set DP LRV(in preferred unit)
	Set DP URV **	Set DP URV(in preferred unit)
	DP Factory Cal ***	*Active Cal Set* *** Select Cal Set ***
	SP LRV	SP LRV (in preferred unit)
	SP URV	SP URV (in preferred unit)
	Set SP LRV **	Set SP LRV (in preferred unit)
	Set SP URV **	Set SP URV (in preferred unit)
	SP Factory Cal ***	*Active Cal Set* *** Select Cal Set ***
	MBT LRV (Mbus only)	MBT LRV (in preferred unit)
	MBT URV (Mbus only)	MBT URV (in preferred unit)

Temperature Setup	Temp Sensor	Device PT Unit *** T Damping sec Break Detect Latching CJ Source Fixed CJ Value Sensor Type Sensor ID RTD Type*** RTD Lead Res Sensor Bias
	Temp LRV	Temp [LRV] (in preferred unit)
	Temp URV	Temp [URV] (in preferred unit)
	Set Temp LRV **	Set [LRV] (in preferred unit) **
	Set Temp URV **	Set [URV] (in preferred unit) **
	T Mod Instal Date ***	Year, Month, Day, Install Date, Write Date ***
	Sens Instl Date ***	Year, Month, Day, Write Date ***

Flow Setup	Flow Parameters	Fl Damping sec *Mass Fl Units* *Vol Fl Units* Dev Flow Unit *** Barom Pressure K-User Factor *Algorithm Type* *Compens Mode* *Fluid State* *Pri Elem Type* *Pipe Diameter* Flow Cust Unit Unit *** Base Unit Unit *** Conv Factor Unit ***
	Flow URL	*Flow URL* (in preferred unit)
	Flow LRV	Flow LRV (in preferred unit)
	Flow URV	Flow URV (in preferred unit)
	Flow Cutoff	Cutoff Hi Lim Cutoff Low Lim

Totalizer* Setup	Totalizer Mode ***	Start Totalizer
		Stop Totalizer
		Reset Pos Value
		Reset Neg Value
		Clr Exceed Ctr
	Totalizer Parameters ***	Maximum value
		Preset Value
		Totalizer Unit
		Sampling Rate
		Custom Unit
		Conv Base Unit
		Conv Factor
		Status Latency
	Totalizer URV *	Totalizer URV (in preferred unit) *
		Totalizer URV (in preferred unit) *
	Totalizer LRV *	Totalizer LRV (in preferred unit) *
		Totalizer LRV (in preferred unit) *
	Statistics ***	Pos Totalizer ***
		Neg Totalizer ***
		Exceed Count ***

Information	Display	*Firmware Version*
	Comm Module	*Firmware Version* *Software Rev* *Protocol*
	Meter Body	*Firmware Version* *Model Key* *DP LRL* *DP URL* *DP Units (preferred unit)* *SP LRL* *SP URL* *SP Units (preferred unit)*
	Temp Module	*Firmware Version* *Model Key (Modbus only)* *Temp LRL* *Temp URL* *Temp Units (preferred unit)*
	Options ***	*Universal Temp*
		Flow Output (Modbus only)
		Serial Number
		License key

Appendix A. PRODUCT CERTIFICATIONS

A1. Safety Instrumented Systems (SIS) Installations

For Safety Certified Installations, please refer to SMV800 SmartLine Multivariable Safety Manual 34-SM-25-05 for installation procedure and system requirements.

A2. European Directive Information (CE Mark)

CE Honeywell

APPV-SMV800-CE
Revision: D

EU DECLARATION OF CONFORMITY

We,

Honeywell International Inc.
Honeywell Field Solutions
512 Virginia Drive
Fort Washington, PA 19034 USA

declare under our sole responsibility that the following products,

SMV 800 – Smart Series DE/ HART and MODBUS Multi-Variable Transmitter SMA810, SMA845 and SMG870

to which this declaration relates, is in conformity with the provisions of the European Community Directives, including the latest amendments, as shown in the attached schedule.

Assumption of conformity is based on the application of the harmonized standards and when applicable or required, a European Community notified body certification, as shown in the attached schedule.

The authorized signatory to this declaration, on behalf of the manufacturer, and the Responsible Person is identified below.

Owen J. Murphy
Product Safety & Approvals Engineering
Issue Date: 30 September 2018

Honeywell

SCHEDULE
APPV-SMV800-CE
Revision: D

EMC Directive (2014/30/EU)

EN 61326-1:2013 — Electrical Equipment for Measurement, Control and Laboratory Use – EMC Requirements.

Overview of EMC Testing

Equipment Tested (EUT): SMV845 TRANSMITTER
Serial No: CE 001

Summary of Tests Performed:

PORT	TEST	STANDARD	CRITERIA (EN 61326-1)	RESULTS
Enclosure	Radiated Emission	CISPR 11	Group1, Class A 30 – 230 MHz: 40 dB 230 – 1000 MHz: 47 dB	PASS
	ESD Immunity	IEC61000-4-2	+/- 4KV Contact +/- 8KV Air	PASS
	EM Field- RF Radiated Susceptibility	IEC61000-4-3	10 V/m- 80 MHz to 1GHz 3 V/m - 1.4 GHz to 2.0 GHz 1 V/m- 2.0 GHz to 2.7 GHz	PASS PASS PASS
	50Hz/60Hz Magnetic Field Immunity	IEC 6100-4-8	30 A/m	N/A 1
DC Power	EFT(B) Immunity	IEC61000-4-4	+/- 1KV	PASS
	Surge Immunity	IEC61000-4-5	+/- 1KV	PASS
	RF Conducted Susceptibility	IEC61000-4-6	3V	PASS
I/O Signal/ Control (Including Earth Lines)	EFT(Burst) Immunity	IEC61000-4-4	+/- 1KV	2
	Surge Immunity	IEC61000-4-5	+/- 1KV	2
	RF Conducted Susceptibility	IEC61000-4-6	3V	2

Honeywell

SCHEDULE
APPV-SMV800-CE
Revision: D

PORT	TEST	STANDARD	CRITERIA (EN 61326-1)	RESULTS
AC Power	Voltage Dip	IEC61000-4-11	0% during 1 Cycle 40% during 10-12 Cycles 70% during 25-30 Cycles	N/A[3]
	Short Interruptions	IEC61000-4-11	0% during 250-300 Cycles	N/A[3]
	EFT(Burst) Immunity	IEC61000-4-4	2KV	N/A[3]
	Surge Immunity	IEC61000-4-5	1KV/ 2KV	N/A[3]
	RF Conducted Susceptibility	IEC61000-4-6	3V	N/A[3]

1. There is no magnetic sensitive circuitry.
2. Done as part of the DC Power Testing.
3. Product is DC Powered.

Test Report No : R-2367P

Testing performed at: **Retlif Testing Labatories**
3131 Detwiler Road
Harleysville, PA 19438
USA

ATEX Directive (2014/34/EU)

EC-Type Examination Certificate No: SIRA 15ATEX2039X Protection : Intrinsic Safety, Flameproof and Dust
Equipment Group II Category 1 G
Ex ia IIC T4 Ga (Ta= -50ºC TO 70ºC)
Ex ia IIC T4 Ga (Ta= -50ºC TO 45ºC)
FISCO Field Device

Equipment Group II Category 1/ 2 G and Group II Caegrory 2 D
Ex db IIC T5 Ga/Gb (Ta= -50ºC TO 85ºC)
Ex db IIC T6 Ga /Gb(Ta= -50ºC TO 65ºC)
Ex tb IIIC T95ºC Db (Ta= -50ºC TO 85ºC)

Harmonized Standards :
EN 60079-0: 2012/A11 :2013 EN 60079-1: 2014 EN 60079-26: 2015
EN 60079-31: 2013 EN 60079-11: 2012

Honeywell

SCHEDULE
APPV-SMV800-CE
Revision: D

Type Examination Certificate No: SIRA 15ATEX4040 Protection : Non Sparking "n" and FISCO
Equipment Group II Category 3 G
Ex ec IIC T4 Ga (Ta= -50ºC TO 70ºC)
Ex ic IIC T4 Ga (Ta= -50ºC TO 45ºC)
FISCO Field Device

Harmonized Standards :
EN 60079-0: 2012/A11: 2013 EN 60079-11: 2012 EN 60079-7: 2015

ATEX Notified Body for EC Type Certificates
Sira Certifcation Service [Notified Body Number: 0518]
Unit 6, Hawarden Industrial Park,
Hawarden, Deeside, CH5 3US,
United Kingdom

ATEX Notified Body for Quality Assurance
DEKRA Certification B.V. [Notified Body Number: 0344]
Meander 1051
6825 MJ Arnhem
The Netherlands

Pressure Equipment Directive (PED) (2014/68/EU)

ASME Boiler and Pressure Vessel Code Section VIII 'Rules for Construction of Pressure Vessels: 2000

Pressure Transmitter	PED Module
Absolute Pressure	
SMA 810	Sound Engineering Practice (SEP)
SMA 845	
Gauge Pressure	
SMG870	Module A

A3. Hazardous Locations Certifications

AGENCY	TYPE OF PROTECTION	Electrical Parameters	Ambient Temperature
FM Approvals™	**Explosion proof:** Class I, Division 1, Groups A, B, C, D Class I, Zone 0/1, AEx db IIC T6..T5 Ga/Gb **Dust Ignition Proof:** Class II, Division 1, Groups E, F, G; Suitable for Division 1, Class III; Class II, Zone 21, AEx tb IIIC T 95ºC Db	Note 1	T95 ºC /T5: -50 ºC to 85ºC T6: -50 ºC to 65ºC
	Intrinsically Safe: Class I, II, III, Division 1, Groups A, B, C, D, E, F, G Class I Zone 0 AEx ia IIC T4 Ga	Note 2	T4: -50ºC to 70ºC
	Non-Incendive and Intrinsically Safe: Class I, Division 2, Groups A, B, C, D Class I Zone 2 AEx nA IIC T4 Gc	Note 1	T4: -50ºC to 85ºC
	Enclosure: Type 4X/ IP66/ IP67		
	Standards: FM 3600:2011; ANSI/ ISA 60079-0: 2013; FM 3615:2006; ANSI/ ISA 60079-1 : 2013; FM 3616 : 2011 ; ANSI/ ISA 60079-31 : 2013; FM 3610:2015; ANSI/ ISA 60079-11 : 2012; FM 3810 : 2005 ; ANSI/ ISA 60079-26 : 2011; FM 3611:2004; ANSI/ ISA 60079-15 : 2012 ; FM 3810 : 2005; ANSI/ ISA 61010-1: 2004;NEMA 250 : 2003 ; ANSI/ IEC 60529 : 2004		
CSA-Canada	**Explosion proof:** Class I, Division 1, Groups A, B, C, D **Dust Ignition Proof:** Class II, III, Division 1, Groups E, F, G Suitable for Division 1, Class III; Zone 0/1, Ex db IIC T6..T5 Ga/Gb Class I, Zone 0/1, AEx db IIC T6..T5 Ga/Gb Ex tb IIIC T 95ºC Db Class II, Zone 21, AEx tb IIIC T 95ºC Db	Note 1	T5: -50 ºC to 85ºC T6: -50 ºC to 65 ºC
	Intrinsically Safe: Class I, II, III, Division 1, Groups A, B, C, D, E, F, G; Ex ia IIC T4 Ga	Note 2	T4: -50ºC to 70ºC
	Non-Incendive and Intrinsically Safe: Class I, Division 2, Groups A, B, C, D Ex nA IIC T4 Gc Class I Zone 2 AEx nA IIC T4 Gc	Note 1	T4: -50ºC to 85ºC
	Enclosure: Type 4X/ IP66/ IP67		
	Standards: CSA C22.2 No 0: 2010; CSA C22.2 No. 0-M91; CSA C22.2 No 25: 1966; CSA C22.2 No 30M; 1986; CSA C22.2 No. 142M: 1987; CAN/ CSA-C22.2 No.157: 1992; CSA C22.2 No 213M: 1987; CSA C22.2 No 60529: 2005; CSA C22.2 No 60079-0: 2011; CSA C22.2 No 60079-1: 2011; CSA C22.2 60079-11: 2011; CSA C22.2 60079-15: 2012; CSA C22.2 60079-31: 2012; ISA 12.12.01: 2010; ANSI/ ISA 60079-0: 2009; ANSI/ ISA 60079-1: 2012; ANSI/ ISA 60079-11: 2011; ANSI/ ISA 60079-15: 2009; ANSI/ ISA 60079-26 : 2011; ANSI/ ISA 60079-31 : 2012; ISA 60079-27: R2011; UL 913: ed 6; UL 916: 1998		

ATEX	**Flameproof:** Sira 15ATEX2039X II 1/2 G Ex db IIC T6..T5 Ga/Gb II 2 D Ex tb IIIC T 95ºC..T125ºC Db	Note 1	T5/ T95ºC: -50 ºC to 85ºC T6: -50 ºC to 65ºC
	Intrinsically Safe: Sira 15ATEX2039X II 1 G Ex ia IIC T4 Ga	Note 2	T4: -50ºC to 70ºC
	Non Sparking and Intrinsically Safe: Sira12ATEX4234X II 3 G Ex ec IIC T4 Gc	Note 1	T4: -50ºC to 85ºC
	Standards: EN 60079-0: 2012+A11: 2013; EN 60079-1 : 2007; EN 60079-11 : 2012; EN 60079-31 : 2014 EN 60079-26 : 2007; EN 60529 : 2000 + A1; EN 60079-15 : 2010		
	Enclosure: IP66/ IP67		
IECEx	**Intrinsically Safe:** IECEx SIR 15.0022X Ex ia IIC T4 Ga	Note 2	T4: -50ºC to 70ºC
	Non Sparking: IECEx SIR 15.0022X Ex ec IIC T4 Gc	Note 1	T4: -50ºC to 85ºC
	Flameproof: Ex db IIC T6..T5 Ga/Gb Ex tb IIIC T 95ºC..125 ºC Db	Note 1	T5: -50 ºC to 85ºC T6: -50 ºC to 65ºC
	Enclosure: IP66/ IP67		
	Standards: IEC 60079-0: 2011; IEC 60079-1 : 2007; IEC 60079-11: 2011; IEC 60079-15 : 2011; IEC 60079-31: 2013; IEC 60079-26: 2006		
CCoE (India)	**Intrinsically Safe:** Ex ia IIC T4 Ga	Note 2	T4: -50ºC to 70ºC
	Non Sparking: Ex ec IIC Gc	Note 1	T4: -50ºC to 85ºC
	Flameproof: Ex db IIC T6..T5 Ga/Gb Ex tb IIIC T95ºC..T125 ºC Db	Note 1	T5: -50 ºC to 85ºC T6: -50 ºC to 65ºC
SAEx (South Africa)	**Intrinsically Safe:** Ex ia IIC T4 Ga	Note 2	T4: -50ºC to 70ºC
	Non Sparking: Ex ec IIC Gc	Note 1	T4: -50ºC to 85ºC
	Flameproof: Ex db IIC T6..T5 Ga/Gb Ex tb IIIC T95ºC..T125 ºC Db	Note 1	T5: -50 ºC to 85ºC T6: -50 ºC to 65ºC
	Enclosure: IP66/ IP67		

INMETRO (Brazil)	**Intrinsically Safe:** Ex ia IIC Ga	Note 2	T4: -50ºC to 70ºC
	Non Sparking: Ex ec IIC T4 Gc	Note 1	T4: -50ºC to 85ºC
	Flameproof: Ex db IIC T6..T5 Ga/Gb Ex tb IIIC T 95ºC..T125 ºC Db	Note 1	T5: -50 ºC to 85ºC T6: -50 ºC to 65ºC
	Enclosure: IP66/ IP67		
	Standards: ABNT NBR IEC 60079-0:2013 (IEC 60079-0:2011); ABNT NBR IEC 60079-11:2013 (IEC 60079-11:2011); ABNT NBR IEC 60079-15:2012 (IEC 60079-15:2010); ABNT NBR IEC 60079-31:2014 (IEC 60079-31:2013).		
NEPSI (CHINA)	**Intrinsically Safe:** Ex ia IIC T4 Ga	Note 2	T4: -50ºC to 70ºC
	Non Sparking: Ex nA IIC T4 Gc	Note 1	T4: -50ºC to 85ºC
	Flameproof: Ex d IIC T6..T5 Ga/Gb Ex tb IIIC Db T95ºC..T125 ºC Db	Note 1	T5: -50 ºC to 85ºC T6: -50 ºC to 65ºC
	Enclosure: IP66/ IP67		
KOSHA (Korea)	**Flameproof:** Ex d IIC T6..T5 Ex tD A21 T 95ºC..T125 ºC	Note 1	T5: -50 ºC to 85ºC T6: -50 ºC to 65ºC
	Intrinsically Safe: Ex ia IIC Ga	Note 2	T4: -50ºC to 70ºC
EAC Ex	Ex d IIC T6..T5 Ga/Gb Ex tb IIIC T95ºC Db	Note 1	T5: -50 ºC to 85ºC T6: -50 ºC to 65ºC
	Intrinsically Safe: Ex ia IIC T4 Ga	Note 2	T4: -50 ºC to 70ºC
	Non Sparking: 2 Ex nA IIC T4 Gc	Note 1	T4: -50ºC to 85ºC
	Enclosure : IP 66/67		

Notes

1. **Operating Parameters:**

   Voltage= 11 to 42 V Current= 4-20 mA Normal (3.8 – 23 mA Faults)

2. **Intrinsically Safe Entity Parameters**

   Vmax= Ui= 30 V Imax= Ii= 225mA Ci=4 nF Li= 0 uH

MODBUS Communications

AGENCY	TYPE OF PROTECTION	Ambient Temperature
CSA-Canada	**Explosion proof:** Class I, Division 1, Groups A, B, C, D **Dust Ignition Proof:** Class II, III, Division 1, Groups E, F, G Suitable for Division 1, Class III; Zone 0/1, Ex db IIC T6..T5 Ga/Gb Class I, Zone 0/1, AEx db IIC T6..T5 Ga/Gb Ex tb IIIC T 95ºC Db Class II, Zone 21, AEx tb IIIC T 95ºC Db	T5: -50 ºC to 85ºC T6: -50 ºC to 65 ºC
	Non-Incendive and Intrinsically Safe: Class I, Division 2, Groups A, B, C, D Ex nA IIC T4 Gc Class I Zone 2 AEx nA IIC T4 Gc	T4: -50ºC to 85ºC
	Enclosure: Type 4X/ IP66/ IP67	
	Standards: CSA C22.2 No 0: 2010; CSA C22.2 No. 0-M91; CSA C22.2 No 25: 1966; CSA C22.2 No 30M; 1986; CSA C22.2 No. 142M: 1987; CAN/ CSA-C22.2 No.157: 1992; CSA C22.2 No 213M: 1987; CSA C22.2 No 60529: 2005; CSA C22.2 No 60079-0: 2011; CSA C22.2 No 60079-1: 2011; CSA C22.2 60079-11: 2011; CSA C22.2 60079-15: 2012; CSA C22.2 60079-31: 2012; ISA 12.12.01: 2010; ANSI/ ISA 60079-0: 2009; ANSI/ ISA 60079-1: 2012; ANSI/ ISA 60079-11: 2011; ANSI/ ISA 60079-15: 2009; ANSI/ ISA 60079-26 : 2011; ANSI/ ISA 60079-31 : 2012; ISA 60079-27: R2011; UL 913: ed 6; UL 916: 1998	

A4. Marking ATEX Directive

General:

The following information is provided as part of the labeling of the transmitter:

- Name and Address of the manufacturer
- Notified Body identification: DEKRA Quality B.V., Arnhem, the Netherlands

CE 0344

A.5 Conditions of Use" for Ex Equipment", Hazardous Location Equipment or "Schedule of Limitations":

Apparatus Marked with Multiple Types of Protection

The user must determine the type of protection required for installation the equipment. The user shall then check the box [] adjacent to the type of protection used on the equipment certification nameplate. Once a type of protection has been checked on the nameplate, the equipment shall not then be reinstalled using any of the other certification types.

Painted surface of the SMV800 may store electrostatic charge and become a source of ignition in applications with a low relative humidity less than approximately30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust or oil. Cleaning of the painted surface should only be done with a damp cloth.

Flame-proof Installations: The Transmitter can installed in the boundary wall between an area of EPL Ga/ Class I Zone 0/ Category 1 and the less hazardous area, EPL Gb/ Class I Zone 1/ Category 2. In this configuration, the process connection is installed in EPL Ga/ Class I Zone 0/ Category 1, while the transmitter housing is located in EPL Gb/ Class I Zone 1/ Category 2.

Consult the manufacturer for dimensional information on the flameproof joints for repair.

WARNING: DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT

Non-Incendive Equipment:
Division 2: This equipment is suitable for use in a Class I, Division 2, Groups A, B, C, D; T4 or Non-Hazardous Locations Only

WARNING: DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT

Intrinsically Safe: Must be installed per drawing 50128060

The enclosure is manufactured from low copper aluminum alloy. In rare cases, ignition sources due to impact and friction sparks could occur. This shall be considered during Installation, particularly if equipment is installed a Zone 0 location.

If a charge-generating mechanism is present, the exposed metallic part on the enclosure is capable of storing a level of electrostatic that could become Incendive for IIC gases. Therefore, the user/ installer shall implement precautions to prevent the buildup of electrostatic charge, e.g. earthing the metallic part. This is particularly important if equipment is installed a Zone 0 location.

WARNING: SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR USE IN HAZARDOUS LOCATIONS

All Protective Measures:

WARNING: FOR CONNECTION IN AMBIENTS ABOVE 60ºC USE WIRE RATED 105ºC

A5. Control Drawing

COPYRIGHT 2015, HONEYWELL INTERNATIONAL INC. NEITHER THIS DOCUMENT NOR THE INFORMATION CONTAINED HEREIN SHALL BE REPRODUCED, USED OR DISCLOSED TO OTHERS WITHOUT THE WRITTEN AUTHORIZATION OF HONEYWELL. USE, DUPLICATION, OR DISCLOSURE OF THIS DOCUMENT IS SUBJECT TO THE RESTRICTIONS SET FORTH IN A WRITTEN AGREEMENT. NOTHING CONTAINED HEREIN SHALL BE CONSTRUED AS CONFERRING BY IMPLICATION, ESTOPPEL, OR OTHERWISE ANY LICENSE TO ANY PATENT, TRADEMARK, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT OF HONEYWELL OR ANY THIRD PARTY.

PRE REL							
ISS	REVISION & DATE	APPD
D	7/6/2016 ECN 2016- 3826	OJM

SMV800 Multi-Variable Transmitter, ANALOG, HART/DE and FF/ PA Communications

1. Intrinsically safe installation shall be in accordance with
   a. FM (USA): ANSI/NFPA 70, NEC® Articles 504 and 505.
   b. CSA (Canada): Canadian Electrical Code (CEC), part I, section 18.
   c. ATEX: Requirements of EN 60079-14, 12.3 (See also 5.2.4).
   d. IECEx: Requirements of IEC 60079-14, 12.3 (See also 5.2.4).
2. ENTITY approved equipment shall be installed in accordance with the manufacturer's Intrinsic Safety Control Drawing.
3. The Intrinsic Safety ENTITY concept allows the interconnection of two ENTITY Approved Intrinsically safe devices with ENTITY parameters not specifically examined in combination as a system when:
   Uo, Voc, or Vt ≤ Ui or Vmax; Io, Isc, or It ≤ Ii or Imax; Ca or Co ≥ Ci + Ccable, La or Lo ≥ Li + Lcable, Po ≤ Pi.
   Where two separate barrier channels are required, one dual-channel or two single-channel barriers may be used, where in either case, both channels have been Certified for use together with combined entity parameters that meet the above equations.
4. System Entity Parameters:
   SMV800 Transmitter: Vmax Voc or Uo, Imax Isc or Io;
   SMV800 Transmitter: Ci + Ccable ≤ Control Apparatus Ca,
   SMV 800 Transmitter: Li + Lcable ≤ Control Apparatus La.
5. When the electrical parameters of the cable are unknown, the following values may be used:
   Capacitance: 197pF/m (60 pF/ft)
   Inductance: 0.66µH/m (0.020µH/ft).
6. Control equipment that is connected to Associated Equipment must not use or generate more than 250 V.
7. Associated equipment must be FM, CSA ATEX or IECEx (depending on location) listed. Associated equipment may be installed in a Class I, Division 2 or Zone 2 Hazardous (Classified) location if so approved.
8. Non-Galvanically isolated equipment (grounded Zener Barriers) must be connected to a suitable ground electrode per:
   a. FM (USA): NFPA 70, Article 504 and 505. The resistance of the ground path must be less than 1.0 ohm.
   b. CSA (Canada): Canadian Electrical Code (CEC), part I, section 10.
   c. ATEX: Requirements of EN 60079-14, 12.2.4.
   d. IECEx: Requirements of IEC 60079-14, 12.2.4.
9. Intrinsically Safe DIVISION 1/ Zone 0 WARNING: SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR USE IN HAZARDOUS LOCATIONS.
10. Division 2/ Zone 2: WARNING: DO NOT OPEN WHEN AN EXPLOSIVE GAS ATMOSPHERE IS PRESENT.
11. NO REVISION OF THIS CONTROL DRAWING IS PERMITTED WITHOUT AUTHORIZATION FROM THE AGENCIES listed.
12. For release approvals see ECN 2015-5936.

	DRAWN		Honeywell
	CHECKED		CONTROL DRAWING SMV800 SERIES MULTI-VARIABLE TRANSMITTER DIVISIONS 1 & 2 / ZONE 0 & 2
	DEV ENG		
	MFG ENG		
	QA ENG		
	TOLERANCE UNLESS NOTED		A/A4 — 50128060
MASTER FILE TYPE: MS WORD	ANGULAR DIMENSION		SCALE: None — USED ON — SH. 1 OF 4

INSTRUCTIONS FOR INMETRO

1. Instalação de segurança intrínseca devem estar de acordo com Requisitos de IEC 60079-14, 12.3 (See also 5.2.4).
2. ENTIDADE equipamento aprovado deve ser instalado de acordo com a segurança intrínseca Desenho de Controle do fabricante.
3. O conceito de Segurança Intrínseca ENTIDADE permite a interligação de dois entidade credenciada dispositivos de segurança intrínseca com parâmetros de entidade não examinados especificamente em combinação como um sistema quando:
   Uo, Voc, or Vt ≤ Ui or Vmax; Io, Isc, or It ≤ Ii or Imax; Ca or Co ≥ Ci + Ccable, La or Lo ≥ Li + Lcable, Po ≤ Pi.
   Quando forem necessários dois canais separados de barreira, um dual-channel ou duas barreiras de canal único pode ser usado, onde em ambos os casos, ambos os canais foram certificados para uso em conjunto com os parâmetros entidade combinada que atendam as equações acima.
4. Parâmetros da Entidade de sistema::
   Vmax Voc or Uo, Imax Isc or Io;
   Ci + Ccable ≤ Control Apparatus Ca,
   Li + Lcable ≤ Control Apparatus La.
5. Quando os parâmetros eléctricos do cabo não são conhecidos, podem ser utilizados os seguintes valores::
   Capacidade: 197pF/m (60 pF/ft)
   Indutância: 0.66µH/m (0.020µH/ft).
6. Os equipamentos de controle que está ligado à Associated Equipment não deve usar ou gerar mais de 250 V.
7. Equipamentos associados devem ser IECExor INMETRO (dependendo da localização) listados. Equipamentos associados podem ser instalados em uma perigosos (classificados) local Classe I, Divisão 2 ou Zona 2 se for aprovado.
8. O equipamento não Galvanicamente isolado (Barreiras Zener aterradas) deve ser conectado a um eletrodo de aterramento adequado por IECEx or INMETRO: Requisitos de IEC 60079-14, 12.2.4.
9. Intrinsecamente seguro Divisão 1 / Zona 0 AVISO: substituição de componentes pode prejudicar a adequação para uso em locais perigosos.
10. Divisão 2 / Zona 2: AVISO: NÃO aberto quando uma atmosfera de gás explosiva.
11. Nenhuma revisão deste desenho CONTROL é permitida sem autorização dos órgãos listados.

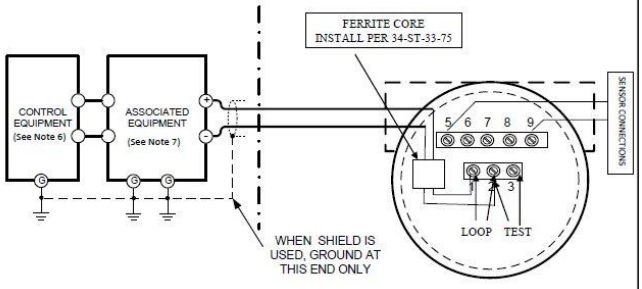
Honeywell	A/A4	50128060	
	SCALE: None	REV D DATE 7/6/2016	SH. 2 of 4

SMV800 HART/DE

Terminal	ENTITY PARAMETERS	Associated Apparatus
1,2 (Loop)	Ui or Vmax ≤ 30V	Uo, Voc or Vt ≤ 30V
	Ii or Imax ≤ 225 mA	Io (Isc or It) ≤ 225 mA
	Pi or Pmax = 0.9W	Po ≤ 0.9 W
	Ci= 4 nF	Ca or Co ≥ C_{Cable} + C_{SMV800}
	Li= 9 µH	La or Lo ≥ L_{Cable} + L_{SMV800}
5, 6, 7, 8 (SENSOR)	Co= 39 uF	-----
	Lo= 4.99 H	-----

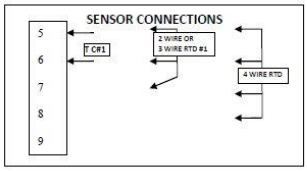
NON-HAZARDOUS LOCATION

HAZARDOUS (CLASSIFIED) LOCATION
CLASS I, DIVISION 1, GROUPS A, B, C, D, E, F & G;
ZONE 0 IIC & ZONE 2 IIC,
CLASS I DIVISION 2, GROUPS A, B, C, D;



FOR DIV 2 / ZONE 2 INSTALLATIONS

CONTROL EQUIPMENT PARAMETERS
Umax = Ui = 42V, 4-20 mA, Po ≤ 1 W
NOTE : ASSOCIATED EQUIPMENT NOT REQUIRED



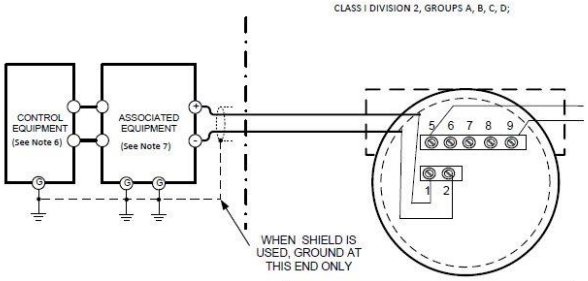
Honeywell	A/A4	50128060	
	SCALE: None	REV D DATE 7/6/2016	SH. 3 of 4

SMV800 FOUNDATION FIELDBUS/ PROFIBUS

TERMINALS	NON FISCO		FISCO	
	ENTITY PARAMETERS	Associated Apparatus	ENTITY PARAMETERS	Associated Apparatus
1,2 (FF CONNECTION)	Ui or Vmax ≤ 30V	Uo, Voc or Vt ≤ 30V	Ui or Vmax ≤ 17.5	Uo, Voc or Vt ≤ 18V
	Ii or Imax ≤ 225 mA	Io (Isc or It) ≤ 225 mA	Ii or Imax ≤ 380 mA	Io (Isc or It) ≤ 380 mA
	Pi or Pmax = 1W	Po ≤ 1 W	Pi or Pmax = 5.32W	Po ≤ 5.32 W
	Ci= 0 nF	Ca or Co ≥ C_{Cable} + C_{SMV800}	Ci= 0 nF	Ca or Co ≥ C_{Cable} + C_{SMV800}
	Li= 0 µH	La or Lo ≥ L_{Cable} + L_{SMV800}	Li= 0 µH	La or Lo ≥ L_{Cable} + L_{SMV800}
5, 6, 7, 8 (SENSOR)	Co= 39 uF	-----	Co= 39 uF	-----
	Lo= 4.99 H	-----	Lo= 4.99 H	-----

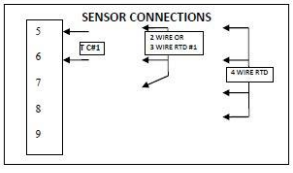
NON-HAZARDOUS LOCATION

HAZARDOUS (CLASSIFIED) LOCATION
CLASS I, CLASS II, DIVISION 1, GROUPS A, B, C, D, E, F & G;
ZONE 0 IIC & ZONE 2 IIC,
CLASS I DIVISION 2, GROUPS A, B, C, D;



DIV 2 / ZONE 2 INSTALLATIONS

CONTROL EQUIPMENT PARAMETERS
Umax=Ui= 32V, 25 mA, Po ≤ 1 W
NOTE : ASSOCIATED EQUIPMENT NOT REQUIRED



Honeywell	A/A4	50128060	
	SCALE: None	REV D DATE 7/6/2016	SH. 4 of 4

Sales and Service

For application assistance, current specifications, pricing, or name of the nearest Authorized Distributor, contact one of the offices below.

ASIA PACIFIC (TAC) **hfs-tac-support@honeywell.com**
Australia Honeywell Limited, Phone: +(61) 7-3846 1255, FAX: +(61) 7-3840 6481
Toll Free 1300-36-39-36, Toll Free Fax: 1300-36-04-70
China – PRC – Shanghai, Honeywell China Inc. Phone: (86-21) 5257-4568,
Fax: (86-21) 6237-2826
Singapore, Honeywell Pte Ltd. Phone: +(65) 6580 3278. Fax: +(65) 6445-3033
South Korea, Honeywell Korea Co Ltd. Phone:+(822)799 6114. Fax:+(822) 792 9015

EMEA, Phone: + 80012026455 or +44 (0)1202645583. FAX: +44 (0) 1344 655554
Email: (Sales) **sc-cp-apps-salespa62@honeywell.com**
or (TAC) **hfs-tac-support@honeywell.com**

AMERICAS, Honeywell Process Solutions, Phone: 1-800-423-9883,
or 1-215/641-3610. (TAC) **hfs-tac-support@honeywell.com**.
Sales 1-800-343-0228. Email: (Sales) **ask-ssc@honeywell.com**

WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Contact your local sales office for warranty information.
If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace without charge those items it finds defective. The foregoing is Buyer's sole remedy and is **in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose**.
Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

For more information
To learn more about SmartLine Transmitters, visit www.honeywellprocess.com
Or contact your Honeywell Account Manager

Process Solutions
Honeywell
1250 W Sam Houston Pkwy S
Houston, TX 77042

Honeywell Control Systems Ltd
Honeywell House, Skimped Hill Lane
Bracknell, England, RG12 1EB

Shanghai City Centre, 100 Jungi Road
Shanghai, China 20061

www.honeywellprocess.com

34-SM-25-04, Rev.4
September 2018
©2018 Honeywell International Inc.