

Coriolis Mass Meter with FOUNDATION Fieldbus



CMM-01 –FF





Description

Manufacture ID: 000104 (hex)

Company: METROVAL

Device ID: 0001 (hex)

Device Name: CMM-01

Functionalities

- Fieldbus Foundation Registered and ITK approved;
- LAS capability implemented (Link Active Schedule);
- One Sensor Transducer Block to configure the device and one Display Transducer Block to configure display of the device;
- Up to 15 Instanciables Function Blocks that to be used for control strategy together default Transducers Blocks (Sensor and Display);
- Ability to display information to diagnoses into Sensor Transducer Block like errors in system and warnings;
- FISCO (Fieldbus Intrinsically Safe Concept) Certification – **To be approved (set/2008)!**

Features

Eight process variables in AIs block that can be read simultaneously:

Mass Flow	Mass Totalize
Volume Flow	Mass Inventory
Temperature	Volume Totalize
Density	Volume Inventory

Reference link

http://www.fieldbus.org/index.php?option=com_mtree&task=viewlink&link_id=1359&ffbstatus=Registered&Itemid=324

Blocks list of CMM-FF

Item	Quantity	Block Name	Class	Instantiable Blocks	Execution time (ms)	No. of Parameter	Description
1	01	RESOURCE	Standard	N	-	42	Main block
2	01	SENSOR	Custom	N	-	79	List all parameters of CMM-01 to configure it
3	01	DISPLAY	Custom	N	-	21	List all parameters to configure the display of CMM
4	08	AI	Standard	Y	100	37	The Analog Input (AI) function block process field device measurements and makes them available to other functions blocks. The output value from the AI block is in engineering units and contains a status indicating the quality of the measurement.
5	05	PID	Standard	Y	100	66	The PID block offers a lot of control algorithmic that use proportional, integral and derivative terms.
6	05	ARTHMETIC	Custom	Y	59	37	The ARTH is intended for use in calculating from combination of signals from sensors. It is intended to be used in a control path, so it no supports cascade and back calculation. It does no conversions to percent, so scaling is not supported. It has no process alarm.
7	05	INTEGRATOR	Custom	Y	57	24	The Integrator Function Block integrates a variable in function of the time or accumulates the counting of a Pulse Input block. The integrated or accumulated value is compared to pre-trip and trip limits, generating discrete signals when these limits as reached. The integrated value may go up, starting from zero, or down, starting from the trip value (parameter SP).
8	05	ANALOG ALARM	Custom	Y	42	21	The Analog Alarm Block provides alarm condition reporting on an analog output of any block. Alarm conditions include high, high-high, low, and low-low alarms. These limits are computed based on gains and biases from a process setpoint input, thus providing dynamic deviation alarming.
9	05	TIMER	Custom	Y	37	39	The Timer and logic function block provides logic combination and timing functions.
10	05	CONSTANT (CT)	Custom	Y	85	52	The Constant function block generates constant values to use in input parameters of the other blocks. It can also read/write in contained parameters of other blocks into the same device.

11	05	INPUT SIGNAL SELECTOR (ISEL)	Custom	Y	25	40	The signal selector block provides of up to four inputs and generates an output based on the configured action. This block would normally receive its input from an AI or another block and not directly from a transducer. In addition to signal selection the block can also perform ax, min, mid, avg and first good selection.
12	05	OUTPUT SIGNAL SELECTOR AND DINAMIC LIMITER (OSDL)	Custom	Y	54	25	The output signal selector and dynamic limiter block (OSDL) provides two different algorithms types: As Output Selector the cascade input may be routed for one of two outputs based on the value of the OP_SELECT input parameter. The output not selected may have two ways: keeping the last value when not selected, or receive a internal value. As dynamic Limiter the cascade input is transferred to both output, but it is limited by the secondary inputs multiplied by a gain, plus a bias.
13	05	SET POINT GENERATOR (SPG)	Custom	Y	51	30	The Setpoint generator block is normally used to generate a Setpoint to a PID block in applications like temperature control, batch reactors, etc. In those applications, the Setpoint shall follow a certain profile in function of the time.
14	05	SPLITTER (SPLT)	Custom	Y	52	19	The Splitter block provides the capability to drive multiples outputs from a signal, usually a PID. This block would normally be used in split ranging or sequencing of multiple valve applications. The splitter supports two outputs.
15	05	LEAD LEG (LLAG)	Custom	Y	34	37	The Lead Lag block provides dynamic compensation of the IN parameter. The block can function as a lead or lag device. The user would configure the LEAD_TIME and LAG_TIME parameters to obtain the desired input/output relationship.
16	05	FLIP FLOP-LOGIC (FFET)	Custom	Y	85	35	It can be configured to work as: SR flip-flop, RS flip-flop, D-latch, Rising edge trigger, Falling edge trigger and Bi-directional edge trigger.
17	05	DENSITY	Custom	Y	83	16	This function block has algorithm to calculate density in different kinds of engineering units, as Plato degree, Brix, TC an INPM.
18	05	SIGNAL CHARACTERIZER (CHAR)	Custom	Y	47	82	The signal characterizer block has two sections, each with an output that is a non-linear function of respective inputs. The function is determined by a single look-up table with x-y coordinates of twenty points each. The status of input is copied to the corresponding output, so the bock may be used in the control or process signal path.