

# General Specifications

GS 01F02F04-00E

Model YF100  
Model YFA11  
Fieldbus Communication  
Vortex Flowmeter



Fieldbus is the digital communication line for the field instruments, whose signal is internationally standardized by Fieldbus FOUNDATION.

The Fieldbus bi-directional digital communication performance makes possible for the field instruments and the control devices to be a complete on-line system, superseding the existing analog transmission lines. Also, the precise transmission of various process data including the PV and MV of the field instruments is well established by the Fieldbus multi-sensing function. Thus, based on FOUNDATION Fieldbus specifications, YF100 and YFA11 Fieldbus models offer more flexible instrumentation through a higher level of communication capability and propose the cost reduction by multi-drop wirings with less cables.

## ■ FEATURES

- Interoperability  
FOUNDATION Fieldbus specifications grant the interoperability of the field instruments without preparing designated softwares for the instrument.
- Reduction of instrumentation cost  
The multi-drop wiring on the Fieldbus communication line contributes to the reduction of wiring cost.
- Enhanced AI function block  
YF100 and YFA11 Fieldbus models, for example, have enhanced AI function block for monitoring the totalized value.
- Alarm function  
YF100 and YFA11 Fieldbus models securely support various alarm functions, such as high/low alarm, notice of block error, etc. based on FOUNDATION Fieldbus specifications.
- Self-diagnostic function  
The reliable self-diagnostic function detects the measuring range failure, hardware failure, or parameters range violation.
- PID function block(option)  
PID function block(I-PD control algorithm) enables field devices to control processes.  
The option includes the link master function.

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## ■ STANDARD SPECIFICATIONS

For items other than those described below, refer to GS 01F02B04-00E.

### Applicable Model:

All the Model of YF100 and YFA11 with Fieldbus communication type (Output code : F).  
But Fieldbus communication type is not applicable for intrinsically safe model.  
YFA11 with Fieldbus communication type doesn't conform to EMC standard.

### Output Signal:

Digital communication signal based on FOUNDATION Fieldbus protocol.

### Conditions of Communication Line:

Supply Voltage: 9 to 32 V DC  
Supply Current: 19 mA (maximum)

### Power Supply Effect:

No effect (within the supply voltage of 9 to 32 V DC)

### Functional Specifications:

Functional specifications for Fieldbus communication conform to the standard specifications (H1) of FOUNDATION Fieldbus.

Function Block: AI block (enhanced),  
PID block(option)  
Link Master function(option)

## ■ MODEL AND SUFFIX CODES

YF1□□-AAF□□□-□□□□\*E

YFA11-AF□□-□□\*E

F:Output Signal is digital communications(FOUDATION Fieldbus protocol)

## ■ OPTIONAL SPECIFICATIONS

Items	Description	Code
PID/LM function	PID control function and Link Master function (Set as Link Master device when shipped.)	LC1

### <Setting When Shipped>

Tag Number(PD_TAG)*1	Default(FT1001)for PD_TAG, unless otherwise specified in order.
Output Mode (L_TYPE)	Direct
Flow rate Range (XD_SCALE) Lower/Higher Range Value and Unit	Maximum flow rate range on order sheet (WS 1F2B4-01). 0 to 0.8746kg/min unless an order sheet attached.
Output Range (OUT_SCALE) Lower/Higher Range Value and Unit	
Damping Time Constant	2sec
Node Address	0xF6(246) unless otherwise specified

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- \*1: Specified Tag Number is entered in the amplifier memory and also engraved on the stainless steel plate.
- For entry in the amplifier memory,  
Up to 32 letters using any of alphanumeric and symbols, - and .
  - For engraving on the stainless steel plate (option: /SCT see GS01F02B04-00E)  
Up to 16 letters using any of alphanumeric and symbols.

Explanation of parameters listed above:

- (1) XD\_SCALE : Set the input value from Transducer block (input range of sensor) which corresponds to 0% value and 100% value of the calculation in the AI function block. In the case of YF100 and YFA11, the value set as flow span should be entered to this parameter. When 'Direct' is set to 'L\_TYPE', the data set to XD\_SCALE is output.  
Specify the flow rate range (the number lies except decimal point), using up to five digits with in the range 65536.
- (2) OUT\_SCALE : Output scaling parameter. Set the output value which corresponds to 0% value and 100% value of the calculation in the AI function block. When 'Indirect' is set to 'L\_TYPE', the data set to OUT\_SCALE is output.
- (3) L\_TYPE: Determines if the values passed by the tranducer block to the AI block may be used directly (Direct) or if the value is in different units and must be converted linearly (Indirect) using the input range defined by XD\_SCALE and the associated output range (OUT\_SCALE).

### <Ordering Information>

1. Model, suffix codes, and optional codes
2. Flow rate range and unit (XD\_SCALE)  
Maximum flow rate range on order sheet is setting. (WS 1F2B4-01).
3. Output mode (L\_TYPE)  
No need to specify.
4. Output range and units (OUT\_SCALE)  
Maximum flow rate range on order sheet is setting. (WS 1F2B4-01).
5. Tag Number(PD\_TAG)
6. Node Address
7. Fluid Condition  
See GS 01F02B04-00E, specify the flow conditions.

### <Related Instruments>

The customer should prepare instrument maintenance tool,terminator, fieldbus power supply etc.