Please use attached sheets for the pages listed below in IM 1E10C1-E (7th).

<table>
<thead>
<tr>
<th>Page</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Page 10-2</td>
<td>EMC Conformity Standards</td>
</tr>
<tr>
<td></td>
<td>Changed the number of &quot;EMC Conformity Standards&quot;.</td>
</tr>
<tr>
<td></td>
<td>Add the caution note.</td>
</tr>
<tr>
<td>Page 12-1</td>
<td>12. EXPLOSION PROTECTED</td>
</tr>
<tr>
<td>Page 12-5</td>
<td>TYPE INSTRUMENT</td>
</tr>
<tr>
<td></td>
<td>Applicable Standard and Certificate No are added in each</td>
</tr>
<tr>
<td></td>
<td>Ex-proof Technical Data description.</td>
</tr>
</tbody>
</table>
Maximum Power Consumption:
11W for SE**DJ/EJ+SE14

Insulation Resistance:
- 100MΩ between power terminals and ground terminal at 500V DC.
- 100MΩ between power terminals and each output terminal at 500V DC.
- 20MΩ between each output terminal (except for EX1 and EX2) and ground terminal at 100V DC.
- 20MΩ between (EX1 or EX2) and ground terminal at 50V DC.

Withstand Voltage:
- 1500V AC between power terminals and ground terminal for 1 minute. (for -A1/A2 power supply)
- 500V AC between power terminals and ground terminal for 1 minute. (for -D1 power supply)

CAUTION
When performing the Voltage Breakdown Test, Insulation Resistance Test or any unpowered electrical test, wait 10 seconds after the power supply is turned off before removing the housing cover. Be sure to remove the Short Bar at terminal “G”. After testing, return the Short Bar to its correct position. Screw tightening torque should be 1.18 N-m (0.88 ft-lb) or more, because the G-terminal is thought as a protective grounding and should conform to the Safety Requirements.

Safety Requirement Standard:
IEC61326-1 Class A, Table 2 (For use in industrial locations)
EN61326-2-3
EN61000-3-2 Class A
EN61326-2-3

EMC Conformity Standards:
EN61000-3-2 Class A
EN61000-3-3
EN61326-1 Class A, Table 2 (For use in industrial environment)

■ NORMAL OPERATING CONDITION

Ambient Temperature: -20 to 60°C (-4 to 140°F)
Ambient Humidity: 5 to 95% RH (no condensation)
Rated Power Supply Voltage:
- 100V AC/DC version:
  Range 80 to 127V AC, 47 to 63Hz
  90 to 110V DC
  230V AC version: Range 180 to 264V AC
- 24 V DC/AC version:
  Range 20.4 to 28.8V DC/AC

Supplied Power and Max. Cable Length for 24V DC version:

Altitude at installation side:
Max. 2000 m above sea level

Installation category based on IEC61010:
II (See Note)

Pollution level based on IEC61010: 2 (See Note)
Note: • The “Installation category” implies the regulation for impulse withstand voltage. It is also called the “Overvoltage category”. “II” applies to electrical equipment.
• “Pollution level” describes the degree to which a solid, liquid or gas which deteriorates dielectric strength is adhering. “2” applies to a normal indoor atmosphere.

■ ACCESSORIES

Data sheet 1
Unit labels sheet 1
Hexagonal wrench 1
Plug 1 (in case of DC power supply version)
Mounting bracket 1 set

■ MODEL AND SUFFIX CODE

Magnetic Flow Converter:

<table>
<thead>
<tr>
<th>Model</th>
<th>Suffix code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE14</td>
<td></td>
<td>Magnetic flow converter</td>
</tr>
<tr>
<td>Aux.C</td>
<td>J</td>
<td>Always J</td>
</tr>
<tr>
<td>Output</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signal</td>
<td></td>
<td>4-20mA and Pulse or Alarm, simultaneous 2 output (BRAIN) 4-20mA and Pulse or Alarm, simultaneous 2 output (HART)</td>
</tr>
<tr>
<td>Indicator</td>
<td></td>
<td>Non Indicator</td>
</tr>
<tr>
<td></td>
<td>H1</td>
<td>With Indicator</td>
</tr>
<tr>
<td></td>
<td>H2</td>
<td>With Indicator and Setting SW</td>
</tr>
<tr>
<td>Power Supply</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A1</td>
<td>80 to 127V AC / 90 to 110VDC</td>
</tr>
<tr>
<td></td>
<td>A2</td>
<td>180 to 264V AC</td>
</tr>
<tr>
<td></td>
<td>D1</td>
<td>20.4 to 28.8V DC/AC</td>
</tr>
<tr>
<td>Electrical Connection</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1-2</td>
<td>ANSI 1/2NPT Female</td>
</tr>
<tr>
<td>(refer to Note1)</td>
<td></td>
<td>3-4</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>ISO M20-1.5 Female</td>
</tr>
<tr>
<td>Option Codes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>C</td>
</tr>
</tbody>
</table>

Note: Only ANSI 1/2NPT electrical connection is available for FM or CSA explosion proof type.
JIS G1/2 electrical connection is not available for any explosion proof type.

■ DEDICATED SIGNAL CABLE

Dedicated cable for magnetic flowmeter:

<table>
<thead>
<tr>
<th>Model</th>
<th>Suffix Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM011</td>
<td></td>
<td>Dedicated cable for magnetic flowmeter</td>
</tr>
<tr>
<td>End</td>
<td>-0</td>
<td>Non termination</td>
</tr>
<tr>
<td></td>
<td>-4</td>
<td>Terminated</td>
</tr>
<tr>
<td>Cable length</td>
<td></td>
<td>Enter the length in m (Max 300m)</td>
</tr>
<tr>
<td>Style code</td>
<td></td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Option specification</td>
<td></td>
<td>Number of end treatment parts</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>C</td>
</tr>
</tbody>
</table>

Note: 1: A user provided two conductor cable is required for coil excitation.
Note 2: The maximum temperature for the signal cable is 80°C (176°F).
12. EXPLOSION PROTECTED TYPE INSTRUMENT

In this section, further requirements and differences for explosion proof type instrument are described. For explosion proof type instrument, the description in this chapter is prior to other description in this User’s Manual.

NOTE
The terminal box cover and display cover is locked by special screw. In case of opening the cover, please use the Hexagonal Wrench attached.

CAUTION
Be sure to lock the cover with the special screw using the Hexagonal Wrench attached after tightening the cover.

12.1 CENELEC ATEX(KEMA)

WARNING
Only trained persons use this instrument in industrial locations.

(1) Technical Data
Applicable Standard:
  EN50014, EN50018, EN60529, EN61010-1
Certificate: KEMA 98ATEX3230
Group: II
Category: 2G
Type of Protection: EEx d II C T6
Electrode Circuit Um; 250Vac/dc
Excitation Circuit; 41V max. 6/6.25Hz
Enclosure; IP67
Ambient Temp.: -20 to 60°C
Maximum power supply voltage: 250 Vac/ 110 Vdc
Temperature Code: T6

(2) Electrical Connection
The type of electrical connection is stamped near the electrical connection port according to the following codes.

<table>
<thead>
<tr>
<th>Screw Size</th>
<th>Marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISO M20x1.5 female</td>
<td>M</td>
</tr>
<tr>
<td>ANSI 1/2NPT female</td>
<td>A</td>
</tr>
<tr>
<td>DIN Pg13.5 female</td>
<td>D</td>
</tr>
</tbody>
</table>

(3) Installation

WARNING
• All wiring shall comply with local installation requirements and local electrical code.
• In hazardous locations, the cable entry devices shall be of a certified flameproof type, suitable for the conditions of use and correctly installed.
• Unused apertures shall be closed with suitable flameproof certified blanking elements. (The plug attached is flameproof certified.)

(4) Operation

WARNING
• Wait 10 min. after power is turned off, before opening the covers.
• Take care not to generate mechanical spark when access to the instrument and peripheral devices in hazardous locations.

(5) Maintenance and Repair

WARNING
The instrument modification or parts replacement by other than authorized representative of Yokogawa Electric Corporation is prohibited and will void the certification.
12. EXPLOSION PROTECTED TYPE INSTRUMENT

12.2 FM

Model SE14/FF1/FN1 can be selected the type of protection (FM Explosionproof or Nonincendive) for use in hazardous locations.

⚠️ WARNING

- For the installation of this converter, once a particular type of protection is selected, any other type of protection cannot be used. The installation must be in accordance with the description about the type of protection in this user’s manual.
- In order to avoid confusion, unnecessary marking is crossed out on the label other than the selected type of protection when the flow converter is installed.

12.2.1 FM Explosionproof (Optional Code /FF1)

(1) Technical Data

Applicable Standard:
FM 3600, FM 3615, FM 3810, NEMA 250
Explosionproof for Class I Division 1 Groups A, B, C and D. Dust-ignitionproof for Class II/III Division 1 Groups E, F and G.
Temp. Code: T6
Enclosure: NEMA 4X
Ambient Temperature: -20 to +60°C
Maximum power supply voltage: 250 Vac/ 110 Vdc

(2) Wiring

⚠️ WARNING

- All wiring shall comply with National Electrical Code ANSI/NFPA 70 and local electrical code.
- "SEAL ALL CONDUITS WITHIN 18 INCHES". Wiring shall be in conduit as shown in the figure.
12. EXPLOSION PROTECTED TYPE INSTRUMENT

(3) Operation

WARNING

• OPEN CIRCUIT BEFORE REMOVING COVER. SEAL ALL CONDUITS WITHIN 18 INCHES.
• INSTALL IN ACCORDANCE WITH THE USER’S MANUAL IM 1E10C1-E.
• Take care not to generate mechanical spark when access to the instrument and peripheral devices in hazardous locations.

(4) Maintenance and Repair

WARNING

The instrument modification or parts replacement by other than authorized representative of Yokogawa Electric Corporation is prohibited and will void the approval of Factory Mutual Research Corporation.

12.2.2 FM Nonincendive (Optional Code /FN1)

(1) Technical Data

Applicable Standard:

FM 3600, FM 3611, FM 3810
Nonincendive for Class I Division 2 Groups A, B, C and D. Suitable for Class II Division 2 Groups F and G. Class III Division 1 and 2 Hazardous (Classified) Locations.
Temp. Code: T4
Enclosure: NEMA 4X
Ambient Temperature: -20 to +60°C
Maximum power supply voltage: 250 Vac/ 110 Vdc

(2) Wiring (Following contents refers “DOC. No. NFM008-A13 P.1 and P.2”)

<table>
<thead>
<tr>
<th>Hazardous(Classified) Location</th>
<th>Hazardous(Classified) Location</th>
<th>Nonhazardous Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I, Division 2 Groups A, B, C, D</td>
<td>Model SE14 Magnetic Flow Converter</td>
<td>Control Equipment (Note 1)</td>
</tr>
</tbody>
</table>

Nonincendive Field Wiring Parameters:

<table>
<thead>
<tr>
<th>Output signal</th>
<th>Signal name</th>
<th>Voc (V)</th>
<th>Isc (mA)</th>
<th>Ca (µF)</th>
<th>La (mH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analog output</td>
<td>Current Output</td>
<td>19.7</td>
<td>21.6</td>
<td>0.3</td>
<td>10</td>
</tr>
</tbody>
</table>

The nonincendive field wiring concept allows interconnection of two FM Approved Nonincendive Apparatuses with nonindendive field wiring parameters not specifically examined in combination as a system when:

\[ V_{oc} < V_{t} \]
\[ I_{max}, V_{max}, C_{a}, L_{a} \]

<table>
<thead>
<tr>
<th>Input signal</th>
<th>Signal name</th>
<th>Vmax (V)</th>
<th>Imax (mA)</th>
<th>Ca (µF)</th>
<th>Li (mH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact output</td>
<td>Transistor Output</td>
<td>30</td>
<td>135</td>
<td>0.1</td>
<td>0</td>
</tr>
</tbody>
</table>

The nonincendive field wiring concept allows interconnection of two FM Approved Nonincendive Apparatuses with nonindendive field wiring parameters not specifically examined in combination as a system when:

\[ V_{oc} or V_{t} < V_{max}, I_{sc} or I_{t} < I_{max}, C_{a} < C_{a} + C_{i+c}, L_{a} < L_{i+l+c} \]

NOTE

1. Control equipment connected to the Model SE14 magnetic flow converter must not use or generate more than 250V rms or V dc.
2. Installation should be in accordance with the National Electrical Code ANSI/NFPA 70.
3. The configuration of associated Apparatus must be Factory Mutual Research Corporation Approval under Nonincendive Field Wiring Concept or be a simple apparatus (a device which can neither generate nor store more than 1.2V, 0.1A, 25mW, or 20 micro-J, ex. Switches, thermocouples, LED’s and RTD’s).
4. Associated Apparatus manufacturer’s installation drawing must be followed when installing this equipment.
5. Associated Apparatus connection is representative of each input and output signal connection. Each signal shall be wired in a separate shielded cable.
6. No revision to drawing without prior Factory Mutual Research Corporation Approval.
12. EXPLOSION PROTECTED TYPE INSTRUMENT

(3) Operation

⚠️ WARNING

- DO NOT DISCONNECT WHILE CIRCUIT IS LIVE UNLESS LOCATION IS KNOWN TO BE NONHAZARDOUS.
- NI CLI DIV2, GPS ABCD WITH NONINCENDIVE FIELD WIRING PARAMETERS TO CLI DIV2, GPS ABCD PER DWG NFM008-A13 P.1 & P.2.(Refer to (2))
- Do not connect BRAIN TERMINAL or HART Communicator in Hazardous locations.

(4) Maintenance and Repair

⚠️ WARNING

The instrument modification or parts replacement by other than authorized representative of Yokogawa Electric Corporation is prohibited and will void the approval of Factory Mutual Research Corporation.

12.3 CSA

(1) Technical Data

Applicable Standard:
- C22.2 No 0, C22.2 No 0.4, C22.2 No 0.5,
- C22.2 No 25, C22.2 No 30, C22.2 No 94,
- C22.2 No 1010.1
Certificate: 1221381
Class I, Groups B, C and D; Class II, Groups E, F and G; Class III; Encl Type 4X
When installed in Class I, Division 2 locations - Seals No Required.
Electrode Circuit: 41V max. 6/6.25Hz
Temp. Code: T6
Ambient Temperature: -20 to +60°C
Maximum power supply voltage: 250 Vac/ 110 Vdc

(2) Wiring

⚠️ WARNING

- All wiring shall comply with Canadian Electrical Code Part I and Local Electrical Code.
- Note a warning label worded as follows.
Warning : A SEAL SHALL BE INSTALLED WITHIN 50cm OF THE ENCLOSURE.
UN SELLEMENT DOIT ÊTRE INSTALLÉ À MOINS DE 50cm DU BOÎTIER.

(3) Operation

⚠️ WARNING

Note a warning label worded as follows.
Warning : OPEN CIRCUIT BEFORE REMOVING COVER.
OUVRIR LE CIRCUIT AVANT D’EN LEVER LE COUVERCLE.
Take care not to generate mechanical spark when access to the instrument and peripheral devices in hazardous locations.

(4) Maintenance and Repair

⚠️ WARNING

The instrument modification or parts replacement by other than authorized representative of Yokogawa Electric Corporation is prohibited and will void CSA Explosionproof Certification.
12.4 SAA

(1) Technical Data
Applicable Standard:
   AS 2380.1, AS2380.2, AS1939
Certificate:AUS Ex 3764X
Type of Protection: Ex d II C T6
Enclosure Type: IP67
Excitation Circuit: 41V max. 6/6.25Hz
Temp. Code: T6
Ambient Temperature: -20 to +60°C
Maximum power supply voltage: 250 Vac/ 110 Vdc

(2) Installation

⚠️ WARNING
• All wiring shall comply with local installation requirements and local electrical code.
• In hazardous locations, the cable entry devices shall be of a certified flameproof type, suitable for the conditions of use and correctly installed.

(3) Operation

⚠️ WARNING
• Open circuit before opening the covers.
• Take care not to generate mechanical spark when access to the instrument and peripheral devices in hazardous locations.

(4) Maintenance and Repair

⚠️ WARNING
The instrument modification or parts replacement by other than authorized representative of Yokogawa Electric Corporation is prohibited and will void the certification.