

**Models SE100MJ/NJ and
SE200MJ/NJ
Integral Type
Magnetic Flowmeter**

Manual Changes No. 05-008-1E

Please use attached sheets for the pages listed below in IM 1E10B0-01E (10th).

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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, EN50020, EN50028,
EN60529, EN61010-1

Certificate: KEMA 98ATEX3230

Group: II

Category: 2G

Type of Protection: EEx dm[ia] II C T6..T3

Electrode Circuit Um; 250Vac/dc

Excitation Circuit; 41V max. 6/6.25Hz

Temp. Class; T6 T5 T4 T3

Process Temp.; 70 85 120 130°C

Enclosure; IP67

Ambient Temp.: -20 to 60°C(refer to note below)

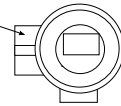
Maximum power supply voltage: 250 Vac/ 110 Vdc

Note: The minimum temperature is -10°C in case of the 40mm or larger sizes with the carbon steel flange connection or wafer connection.

(2) Electrical Connection

The type of electrical connection is stamped near the electrical connection port according to the following codes.

Screw Size	Marking
ISO M20x1.5 female	△ M
ANSI 1/2NPT female	△ A
DIN Pg13.5 female	△ D



(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.

(6) Data Plate

AD MAG SE MAGNETIC FLOWMETER		N200	
MODEL		CE *2) II 2G 0038	KEMA No:KEMA 98ATEX 3230 EEx dm[ia] II C T6...T3
SUFFIX			
STYLE		ELECTRODE CIRCUIT Um: 250Vac/dc	
SIZE	mm	TEMP.CLASS	T6 T5 T4 T3
METER FACTOR		MAX. PROCESS TEMP.	+70 +95 +120 +130°C
SUPPLY	VDC: 10Wmax. VAC: 47Hz to 63Hz 10Wmax.	ENCLOSURE :	IP67
FULL SCALE		 WARNING AFTER DE-ENERGIZING, DELAY 10 MINUTES BEFORE OPENING	
CURRENT OUTPUT	4 - 20mA (600Imax.)		
PULSE OUTPUT	30V DC 0.2Amax. PFA		
LINING MATERIAL		ELECTRODE	
ELECTRODE		FLUID TEMP.	
FLUID TEMP.	-40°C MIN. (SEE THE NOTE AT RIGHT AND SEE IM)	FLUID PRESS.	
FLUID PRESS.	-0.1 MPa MIN. (SEE IM)	Tamb	
Tamb	-20 to +60°C SEE IM	ENCLOSURE	
ENCLOSURE	IP67	TAG NO.	
TAG NO.		NO.	
NO.	*1)		
IM : User's Manual			
YOKOGAWA ◆ ◊ Made in *3)			

MODEL : Specified model code
 SUFFIX : Suffix codes of the model code
 STYLE : Specified style code
 SIZE : Nominal size of apparatus
 METER FACTOR : Sensor constant number of apparatus
 SUPPLY : Power supply voltage of apparatus
 FULL SCALE : Meter range
 CURRENT OUTPUT : Output signal of apparatus
 PULSE OUTPUT : Output signal of apparatus
 LINING MATERIAL : Material of liner
 ELECTRODE : Material of Electrode
 FLUIDTEMP. : Fluid temperature of apparatus
 FLUIDPRESS : Fluid pressure of apparatus
 Tamb : Ambient temperature
 ENCLOSURE : Enclosure protection number
 TAG NO. : Tag number
 NO. : Manufacturing serial number
 CE : CE marking
 ExII 2G : Group II Category 2 Gas atmosphere
 KEMA No. : KEMA 98ATEX3230 : Certificate number
 EExdem[ia]IICT6...T3 : Protection type and temp. class
 ELECTRODE CIRCUIT Um : Voltage of electrode circuit

 **WARNING** : Warning to apparatus

IM : User's Manual

YOKOGAWA ◆ ◊ : Name and address of manufacturer

*1) The third figure from the last shows the last one figure of the year of production. For example, the year of production of the product engraved as follows is year 1998.

No. F261GA091 813

Produced in 1998

*2) The identification number of the notified body : 0344

*3) The product-producing country

12.2 FM

(1) Technical Data

Applicable Standard:

FM 3600, FM 3610, 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. Leads factory sealed.

Intrinsically safe (electrodes) for Class I Division 1 Groups A, B, C & D

Electrode Circuit Vmax : 250V ac/dc

Temperature Code	Maximum Ambient Temperature	Maximum Process Temperature	Minimum Process Temperature
T6	+60°C	+70°C	-40°C
T5	+60°C	+85°C	-40°C
T4	+60°C	+120°C	-40°C
T3	+60°C	+130°C	-40°C

Enclosure: NEMA 4X

Ambient Temperature: -20 to +60°C

Maximum power supply voltage: 250 Vac/ 110 Vdc

Maximum Working Pressure: 4MPa(SE115N to SE205N), 2MPa(SE208N to SE220N)

Flange rating should be also considered.

(2) Wiring

 **WARNING**

- All wiring shall comply with National Electrical Code ANSI/NFPA 70 and local electrical code.
- There is no need of conduit seal for both of Division 1 and Division 2 hazardous locations because this product is sealed at factory.

(3) Operation

 **WARNING**

- OPEN CIRCUIT BEFORE REMOVING COVER. INSTALL IN ACCORDANCE WITH THE INSTRUCTION MANNUAL IM1E10B0-01E.
- 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.

12.3 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 157, 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

Electrodes: Intrinsically Safe, Ex ia, Class I, Groups
A, B, C and D

When installed in Class I, Division 2 locations -
Seals No Required.

Electrode Circuit Vmax : 250V ac/dc

Excitation Circuit : 41V max. 6/6.25Hz

Temperature Code	Maximum Ambient Temperature	Maximum Process Temperature	Minimum Process Temperature
T6	+60°C	+70°C	-40°C
T5	+60°C	+85°C	-40°C
T4	+60°C	+120°C	-40°C
T3	+60°C	+130°C	-40°C

Ambient Temperature: -20 to +60°C

Maximum power supply voltage: 250 Vac/ 110 Vdc

Maximum Working Pressure: 4MPa(SE115N to
SE205N), 2MPa(SE208N to SE220N)

Flange rating should be also considered.

(2) Wiring



WARNING

All wiring shall comply with Canadian Electrical
Code Part I and Local Electrical Codes.

Note a warning label worded as follows.

Warning : A SEAL SHALL BE INSTALLED
WITHIN 50cm OF THE
ENCLOSURE.
UN SCELLEMENT DOIT ÊTRE
INSTALLÉ À MOINS DE 50cm DU
BOÎTIER.

When installed in Class I, Division 2, "SEALS
NO REQUIRED."

(3) Operation



WARNING

Note a warning label worded as follows.

Warning : OPEN CIRCUIT BEFORE REMOV-
ING 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, AS2380.7, AS 2431,
AS1939

Certificate: AUS Ex 3764X

Type of Protection: Ex d m ia II C T6...T3

Enclosure Type: IP67

Excitation Circuit: 41V max. 6/6.25Hz

Electrode Circuit Um: 250V ac/dc

Temperature Code	Maximum Ambient Temperature	Maximum Process Temperature	Minimum Process Temperature
T6	+60°C	+70°C	-40°C
T5	+60°C	+85°C	-40°C
T4	+60°C	+120°C	-40°C
T3	+60°C	+130°C	-40°C

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.
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(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.
