
User's Manual

ADMAG *SE* Models SE100DJ/EJ, SE200DJ/EJ and SE300DJ/EJ Magnetic Flow Tube

Manual Change No. 09-001-7E

Please use attached sheets for the pages listed below in IM 1E10D0-01E (8th).

Page	Contents
Page 5-2 EMC Conformity Standard	Changed the number of "EMC Conformity Standard". Add the caution note.
Page 6-1 to 6-4 6. EXPLOSION PROTECTED TYPE INSTRUMENT	Applicable Standard and Certificate No are added in each Ex-proof Technical Data description.

Safety Requirement Standard:
IEC1010, EN61010

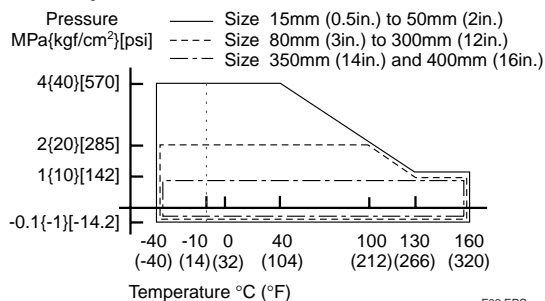
EMC Conformity Standards: **CE** , **N200**
EN61326-1 Class A, Table 2 (For use in industrial locations)
EN61326-2-3
EN61000-3-2 ClassA
EN61000-3-3



CAUTION

This instrument is a Class A product, and it is designed for use in the industrial environment.
Please use this instrument in the industrial environment only.

Fluid Temperature and Pressure :



Note 1: This limits show maximum allowable fluid pressure for Flow Tube itself. Further fluid pressure should also be limited according to flange rating.

Note 2: The minimum temperature is -10 °C (14°F) in case of the 40 mm or larger sizes with the carbon steel flange connection or wafer connection.

■ NORMAL OPERATING CONDITIONS

Ambient Temperature: -20 to 60 °C (-4 to 140 °F)

Note : The minimum temperature is -10 °C (14°F) in case of the 40 mm or larger sizes with the carbon steel flange connection or wafer connection.

Ambient Humidity: 5 to 95%RH (no condensation)

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

Installation category based on IEC1010: II(See Note)

Pollution level based on IEC1010: 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.

Fuse: 2A 250V (Time-Lag type)

Fluid Conductivity: 5µS/cm or larger

*In case that size 250 or 300mm is used for high conductivity fluid (ex. caustic soda, seawater), please use the flange type.

Measurable Flow Rate Range:

SI Units (Size : mm, Flowrate : m³/h) **English Units (Size : inch, Flowrate : GPM)**

Size	MIN. Range @0.3m/s	MAX. Range @10m/s	Size	MIN. Range @1.0ft/s	MAX. Range @33ft/s
15	0.1909	6.361	0.5	0.6024	20.078
25	0.5302	17.671	1	2.4095	80.31
40	1.3572	45.23	1.5	5.422	180.70
50	2.1206	70.68	2	9.638	321.2
80	5.429	180.95	3	21.685	722.8
100	8.483	282.74	4	38.56	1,285.0
150	19.086	636.1	6	86.74	2,891.3
200	33.93	1,130.9	8	154.21	5140
250	53.02	1,767.1	10	240.95	8031
300	76.35	2,544.6	12	347.0	11,565
350	103.91	3,463	14	472.3	15,741
400	135.72	4,523	16	616.9	20,560

T02.EPS

■ ACCESSORIES

Centering device 1 set (in case of wafer type)
Hexagonal wrench
(for special screw of Terminal cover) 1

■ TERMINAL CONNECTION

Terminal Symbols	Description
A B C	Flow signal output Common
EX1 EX2	Excitation current input Function grounding (Outside of the Terminal box)
⏏	

T04.EPS

6. 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.

6.1 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 85 120 150°C

Enclosure; IP67

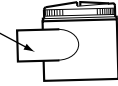
Ambient Temp.: -20 to 60°C

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 10min. 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

ADMAC SE MAGNETIC FLOW TUBE		SIZE	mm
MODEL		METER FACTOR	
SUFFIX		ELECTRODE	
STYLE		FLUID PRESS	- 0.1 MPa MIN. (SEE IM)
ENCLOSURE	IP67	FLUID TEMP.	- 40 °C MIN. (SEE THE NOTE AT BELOW)
LINING	PFA	Tamb	- 20 to + 60 °C SEE IM
TAG NO.		NO.	*1)
CE *2) 0038		II2G	
KEMA No.: KEMA 98ATEX3230		TEMP. CLASS T6 T5 T4 T3	
EEx dm[ia] II C T6...T3		MAX.PROCESS TEMP. +70 +85 +120 +150 °C	
ELECTRODE CIRCUIT Um: 250Vac/dc		ENCLOSURE: IP67	
IM : User's Manual			
YOKOGAWA ◆ Made in *3)		WARNING DE-ENERGIZE BEFORE OPENING	

MODEL : Specified model code
 SUFFIX : Suffix codes of the model code
 STYLE : Specified style code
 ENCLOSURE : Enclosure protection number
 LINING : Material of liner
 TAG NO. : Tag number
 SIZE : Nominal size of apparatus
 METER FACTOR : Sensor constant number of apparatus
 ELECTRODE : Material of electrodes
 FLUIDPRESS : Fluid pressure of apparatus
 FLUIDTEMP. : Fluid temperature of apparatus
 Tamb : Ambient temperature
 No. : Manufacturing serial number
 CE : CE marking
 ExII 2G : Group II Category 2 Gas atmosphere
 KEMA No. : KEMA 98ATEX3230 : Certificate number
 EExdem[ia]IIC T6...T3 : Protection type and temp. class
 ELECTRODE CIRCUIT Um : Voltage of electrode circuit
 IM : User's Manual

WARNING : Warning to apparatus
 YOKOGAWA ◆ TOKYO 180-8750 JAPAN :
 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

6.2 FM

(1) Technical Data

Applicable Standard:

FM 3600, FM 3610, FM 3615, FM 3810,
NEMA 250

Explosion proof for Class I, Division 1, Groups A, B, C & D.

Dust-ignition proof for Class II/III, Division 1, Groups E, F & G.

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

Electrode circuit Vmax: 250 Vac/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	+150°C	-40°C

Enclosure: NEMA 4X

Ambient Temperature: -20 to +60°C

Maximum Working Pressure: 4MPa(SE115E to SE205E), 2MPa(SE208E to SE220E)

Flange rating should be also considered.

Note: There is no need of the conduit seal for both of Division 1 and 2 hazardous locations because this product is sealed at factory.

(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 MANUAL IM1E10D0-01E.
- 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.

6.3 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.

Excitation Circuit: 41V max. 6/6.25Hz

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	+150°C	-40°C

Ambient Temperature: -20 to +60°C

Maximum Working Pressure: 4MPa(SE115E to SE205E), 2MPa(SE208E to SE220E)

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.

OUVRIRE 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.

6.4 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: 41Vmax, 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	+150°C	-40°C

Ambient Temperature: -20 to +60°C

(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.
