

MANUFACTURER'S DECLARATION

SIL 1 and SIL 2 according to IEC 61508-2:2000

Functional safety of safety-related electrical /
programmable electronic systems

We hereby verify the accuracy of the following information

1. General

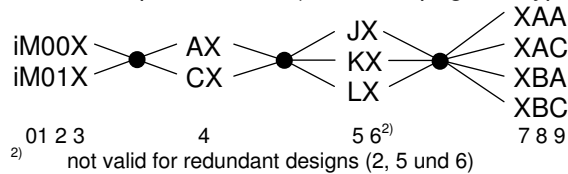
Regarding electromechanical DREHMO® actuators of the i-matic series:

D*iM**¹⁾_*_*

¹⁾ not include: 75, 150, 299, 300, 450, 600, 900, 1200, 1800, 2000

Valve actuator i-matic with PROFIsafe (DiM-04.3 / single-channel)

Electrical specifications (see homepage for type code):



Safety function: ESD (Emergency shutdown): Procedure of the actuator with ESD command in parameterised end position („OPEN“ or „CLOSED“).

Device type according to IEC 61508-2: B (complex component)
Operating mode: Low Demand Mode
Valid hardware version: DiM-01.3 or DiM01.4 and DiM-04.3
Valid software versions: V01.06.2080 and V01.06.2082
Type of evaluation (report no.): Evaluation by FMEDA according to IEC 61508-2 (DREHMO 09/11-73 R002)

Service life: The failure rates apply to the specified endurance according to EN 15714-2 and for a service life of typically up to 10 years (the first attained criterion counts).

2. FMEDA

	Contactor		Solid state relay	
Diagnostics	Fault relay	PVST ³⁾	Fault relay	PVST ³⁾
λ_s	640 FIT	640 FIT	679 FIT	679 FIT
λ_{DD}	1107 FIT	1639 FIT	1107 FIT	1754 FIT
λ_{DU}	668 FIT	136 FIT	784 FIT	137 FIT
SFF ⁴⁾	72 %	94 %	69 %	94 %
MTTR ⁵⁾	24h	24h	24h	24h
SIL AC ⁶⁾	SIL 1	SIL 2	SIL 1	SIL 2

³⁾ PVST: Partial valve stroke test

⁴⁾ SFF: Safe failure fraction

⁵⁾ MTTR: Mean time to restoration

⁶⁾ SIL AC: Safety integrity level (architectural constraints)

PTC (Proof Test Coverage): 92 % (see DREHMO 09/11-73 R002)

Wenden, 2016-08-30

Management