

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

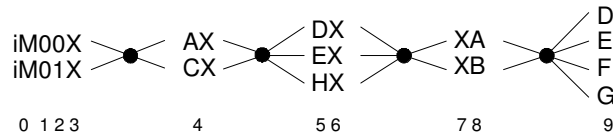
Regarding electromechanical DREHMO® actuators of the i-matic series:

D*iM**¹⁾_*_*

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

Parallel interface in addition to profibus interface (DiM 08)

Electrical specifications (see homepage for the type code):



Safety function: ESD (Emergency shutdown): Procedure of the actuator with ESD-command in parameterised end position („OPEN“ or „CLOSED“). The ESD-command must be “low-active”.

Device type according to IEC 61508-2: B (complex component)

Operating mode: Low Demand Mode

Valid hardware version: DiM01.3 or DiM01.4, DiM04.3 and DiM08.1

Valid software version: V01.06.0076 and V01.06.0078

Type of evaluation (report no.): Evaluation by FMEDA according to IEC 61508-2 (DREHMO 09/02-04 R001D V2R1)

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 ²⁾	Fault relay	PVST ²⁾
λ_s	738 FIT	738 FIT	777 FIT	777 FIT
λ_{DD}	986 FIT	1476 FIT	986 FIT	1591 FIT
λ_{DU}	680 FIT	190 FIT	796 FIT	191 FIT
SFF ³⁾	71 %	92 %	68 %	92 %
MTTR ⁴⁾	24h	24h	24h	24h
SIL AC ⁵⁾	SIL 1	SIL 2	SIL 1	SIL 2

²⁾ PVST: Partial valve stroke test

³⁾ SFF: Safe failure fraction

⁴⁾ MTTR: Mean time to restoration

⁵⁾ SIL AC: Safety integrity level (architectural constraints)

PTC (Proof Test Coverage): 92 % (siehe DREHMO 09/02-04 R001D V2R1)

Wenden, 2016-08-30

W. H. H. H.

Management