

Declaration on environmental compatibility in the fields of EMC¹⁾, climate and mechanical stress

RE 30221-U/07.08

1/4

Type VT-MRPA1-1..-1X/V0/0

Analog amplifier modules

Product types

- VT-MRPA1-100-1X/V0/0 according to data sheet RE 30221
- VT-MRPA1-150-1X/V0/0 according to data sheet RE 30221
- VT-MRPA1-151-1X/V0/0 according to data sheet RE 30221

Description of the product family

Analog amplifier modules for controlling direct operated proportional relief valves with electrical position feedback (type DBETR-1X) or for proportional flow control valves with electrical position feedback (type 2FRE...)

¹⁾ in the sense of the EMC law of 30th August 1995 and Directive 89/336/EEC

The products comply with the following standards:

1. EMC (electromagnetic compatibility)

Testing in accordance with generic standard EN 61000-6-2:2001, VDE 0839 part 6-2

EN 61000-4-2:1995 +A1:1998 +A2:2000 IEC 1000-4-2	VDE 0847-4-2	ESD (electrostatic discharge)	Air discharge: Severity 3 / Assessment criterion B Contact discharge: Severity 2 / Assessment criterion B
EN 61000-4-4:2004 IEC 1000-4-4	VDE 0847-4-4	BURST (transient discharge)	Repetition rate 5 kHz Supply voltage: Severity 2 / Assessment criterion A Severity 3 / Assessment criterion B Data cable: Severity 4 / Assessment criterion A Repetition rate 100 kHz Supply voltage: Severity 3 / Assessment criterion A Data cable: Severity 4 / Assessment criterion A
EN 61000-4-5:1995 +A1:2001 IEC 1000-4-5	VDE 0847-4-5	SURGE (surge voltages)	Supply voltage: Severity 1 / Assessment criterion A
EN 61000-4-6:1996 +A1:2001 IEC 1000-4-6	VDE 0847-4-6	HF fields, conducted interference	Severity 3 / Assessment criterion A

2. Climate

Testing in accordance with EN 60068-2 / IEC 68-2 (environmental test)

EN 60068-2-1:1994		Cold test	2 cycles -5 °C Dwell time 2 hours
EN 60068-2-2:1993		Dry heat test	2 cycles +55 °C Dwell time 2 hours
EN 60068-2-1:1994 EN 60068-2-2:1993		Storage temperature	-25 °C, dwell time 16 hours +85 °C, dwell time 16 hours
	IEC 68-2-14:1986	Temperature cycle	2 cycles -5 °C to +55 °C Dwell time 3 hours each at min. / max. temperature
	IEC 60068-2-30:1999	Damp heat, cyclical	Variant 2 +25 °C to +40 °C 93 % to 97 % relative humidity 2 cycles of 24 hours each

The products comply with the following standards (continued):

3. Mechanical stress

Vibration and shock test in accordance with EN 60068-2 / IEC 68-2 / DIN 40046 (environmental test)

Testing in three axes (X/Y/Z)

EN 60068-2-6:1996			Sine test	10 cycles at, 5...500 Hz...5 Hz at a logarithmic frequency change rate of 1 oct./min. 5 to 57 Hz, amplitude 0.3 mm (p-p) 57 to 500 Hz, amplitude 2 g
	IEC 68-2-36:1973	DIN 40046-24:1977	Random test Wide band noise	20 to 500 Hz, amplitude 0,01 g ² /Hz (2,2 g _{RMS}) Testing time 30 min
EN 60068-2-27:1993			Shock test	Half sine 15 g / 11 ms, 3 x in positive/ 3 x in negative direction per axis; 18 individual shocks in total

