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Test Report

Frequency Converter MD -STO

Tests according to
DIN EN 12015 and DIN EN 12016

June 2015

Tested:	Dipl.-Ing. (FH) Hans Hitzinger	09.06.2015
Approved:	Prof. Dr. -Ing. U. Bochtler	09.06.2015

Test Report Emission

Frequency Converter

MD-STO



Place and date of

the EMC test: Aschaffenburg, 09. June 2015

Manufacturer: Mik-el Elektronik Ltd.
Maatbacilar Sitesi Yolu. No 56
34200 Bagcilar- Istanbul / Turkey

Standards: DIN EN 12015, see page 4

DUT: Frequency Converter MD-STO

Test	Test level	Result	Modification
Conducted emissions mains according to EN 61000-6-3	0,15 – 0,5 MHz 79 dB μ V Quasi-Peak 66 dB μ V Average 0,5 - 5 MHz 73 dB μ V Quasi-Peak 60 dB μ V Average 5 - 30 MHz 73 dB μ V Quasi-Peak 60 dB μ V Average	pass see measuring plots	-
Radiated emissions according to EN 61000-6-3	30–230 MHz 50 dB μ V 230-1000 MHz 57 dB μ V/m distance 3 m	pass see measuring plots	--

General Result: *The conformity to the EMC-requirements for emission of the named standard is met.*

Test laboratory: Labor für Elektromagnetische Verträglichkeit
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Aschaffenburg, 09. June 2015

Prof. Dr.-Ing. U. Bochtler

Test Report Immunity

Frequency Converter

MD-STO



hochschule aschaffenburg
university of applied sciences

Place and date of

the EMC test: Aschaffenburg, 09. June 2015

Manufacturer: Mik-el Elektronik Ltd.

Maatbacilar Sitesi Yolu. No 56

34200 Bagcilar- Istanbul / Turkey

Standards: DIN EN 12016, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6

DUT: Frequency Converter MD-STO

Test	Test level	Result	Modification
Radio frequency electromagnetic fields according to EN 61000-4-3	80 - 1960 MHz 10 V/m, 80 % AM (1 kHz) all circuits 166 - 1784 MHz 30 V/m, 80 % AM (1 kHz) additive safety circuits	pass	--
Radio frequency common mode - input and output AC ports < 100 A according to EN 61000-4-6	0,15 - 80 MHz, 80 % AM (1 kHz) 3 V/m all circuits 10 V/m safety circuits	pass	--
Radio frequency immunity – ports for signal and control lines – ports for monitoring and alarm systems according to EN 61000-4-6	0,15 - 80 MHz, 80 % AM (1 kHz) 3 V/m all circuits 10 V/m safety circuits	pass	--
Fast transient common mode (burst) - ports for signal and control lines – ports for monitoring and alarm systems according to EN 61000-4-4	$\pm 0,5$ kV, 5 kHz all circuits ± 2 kV, 5 kHz safety circuits	pass	--
Surge - ports for signal and control lines – ports for monitoring and alarm systems according to EN 61000-4-5	± 1 kV, 5 kHz line to line ± 2 kV, 5 kHz line to ground all / safety circuits	pass	--
Fast transient common mode (burst) – input and output AC ports < 100 A according to EN 61000-4-4	± 1 kV, 5 kHz all circuits ± 4 kV, 5 kHz safety circuits	pass	--
Surge - input and output AC ports < 100 A according to EN 61000-4-5	± 1 kV, 5 kHz line to line ± 2 kV, 5 kHz line to ground all / safety circuits	pass	--
Electrostatic discharge according to EN 61000-4-2	± 4 kV contact ± 8 kV air-discharge all circuits ± 6 kV contact ± 15 kV air-discharge safety circuits	pass	--

General Result: *The conformity to the EMC-requirements for immunity of the named standards is met.*

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Aschaffenburg, 09. June 2015

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