

EC Type-Examination Certificate



Reg.-Nr./No.: 01/205/5105.01/15

Prüfgegenstand Product tested	Sicherheitsfunktion "Safe Torque Off" (STO) innerhalb der Antriebssteuerungen Safety Function "Safe Torque Off" (STO) within the drive controllers	Zertifikats- inhaber Certificate holder	Moog GmbH Hanns-Klemm-Str. 28 71034 Böblingen Germany
Typbezeichnung Type designation	MSD Single-Axis Servo Drive (G392/5-xxx-xx0-xxx), MSD Single-Axis Servo Drive Compact (G394-xxx-xx0-xxx), MSD Multi-Axis Servo Drive (G393/7-xxx-xx0-xxx) Details see attached Revision List		
Prüfgrundlagen Codes and standards	EN 61800-5-2:2007 EN 61800-5-1:2007 EN 61800-3:2004 + A1:2012 EN 62061:2005 + AC:2010 + A1:2013	EN ISO 13849-1:2008 + AC:2009 EN 60204-1:2006 + A1:2009 + AC:2010 (in extracts) IEC 61508 Parts 1-7:2010 EN 50178:1997	
Bestimmungsgemäße Verwendung Intended application	Die Sicherheitsfunktion erfüllt die Anforderungen der Prüfgrundlagen (Kat. 3 / PL e nach EN ISO 13849-1, SIL CL 3 nach EN 61800-5-2 / EN 62061 / IEC 61508) und kann in Anwendungen bis Kat. 3 / PL e und SIL 3 verwendet werden. The safety function meets the requirements of the relevant standards (Cat. 3 / PL e acc. to EN ISO 13849-1, SIL CL 3 acc. to EN 61800-5-2 / EN 62061 / IEC 61508) and can be used in applications up to Cat. 3 / PL e and SIL 3.		
Besondere Bedingungen Specific requirements	Die Hinweise in der zugehörigen Installations- und Betriebsanleitung sind zu beachten. The instructions of the associated Installation and Operating Manual shall be considered.		

Es wird bestätigt, dass der Prüfgegenstand mit den Anforderungen nach Anhang I der Richtlinie 2006/42/EG über Maschinen übereinstimmt.

It is confirmed, that the product under test complies with the requirements for machines defined in Annex I of the EC Directive 2006/42/EC.

Gültig bis / Valid until 2020-09-15

Der Ausstellung dieses Zertifikates liegt eine Prüfung zugrunde, deren Ergebnisse im Bericht Nr. 968/M 304.01/15 vom 15.09.2015 dokumentiert sind.

Dieses Zertifikat ist nur gültig für Erzeugnisse, die mit dem Prüfgegenstand übereinstimmen. Es wird ungültig bei jeglicher Änderung der Prüfgrundlagen für den angegebenen Verwendungszweck.

The issue of this certificate is based upon an examination, whose results are documented in Report No. 968/M 304.01/15 dated 2015-09-15.

This certificate is valid only for products which are identical with the product tested. It becomes invalid at any change of the codes and standards forming the basis of testing for the intended application.

Berlin, 2015-09-15

Certification Body for Machinery, NB 0035

Dipl.-Ing. Eberhard Frejno

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Revision List

referred to on Certificate No.: 01/205/5105.01/15

Product Tested: Safety Function "Safe Torque Off" (STO)
within Power Drive System

MSD Single-Axis Servo Drive (G392/5-xxx-xx0-xxx)

MSD Single-Axis Servo Drive Compact (G394-xxx-xx0-xxx)

MSD Multi-Axis Servo Drive (G393/7-xxx-xx0-xxx)

MOOG



Devices	Type Designation MOOG	Description	HW / SW Revision	Report-No.:	Certification Status
AC - Device	G394-030-XX0-XXX	BG2 230V AC 1~3~ 3A	Steuerprint 1300.810.4 / Leistungsprint 1320.810.2	968/M 304.01/15	valid
AC - Device	G394-020-XX0-XXX	BG2 400V AC 3~ 2A	Steuerprint 1300.810.4 / Leistungsprint 1325.810.2	968/M 304.01/15	valid
AC - Device	G394-059-XX0-XXX	BG3 230V AC 1~3~ 6A	Steuerprint 1300.810.4 / Leistungsprint 1330.810.3	968/M 304.01/15	valid
AC - Device	G394-035-XX0-XXX	BG3 400V AC 3~ 4A	Steuerprint 1300.810.4 / Leistungsprint 1330.810.3	968/M 304.01/15	valid
AC - Device	G394-080-XX0-XXX	BG4 230V AC 1~3~ 8A	Steuerprint 1300.810.4 / Leistungsprint 1340.810.2	968/M 304.01/15	valid
AC - Device	G394-065-XX0-XXX	BG4 400V AC 3~ 7A	Steuerprint 1300.810.4 / Leistungsprint 1340.810.2	968/M 304.01/15	valid
AC - Device	G394-120-XX0-XXX	BG5 400V AC 3~ 12A	Steuerprint 1300.810.4 / Leistungsprint 1355.810.2	968/M 304.01/15	valid
AC - Device	G394-160-XX0-XXX	BG5 400V AC 3~ 16A	Steuerprint 1300.810.4 / Leistungsprint 1355.810.2	968/M 304.01/15	valid
AC - Device	G392-004AXX0-XXX	BG1 230V AC 1~ 4A	Steuerprint 1100.840.3 / Leistungsprint 1110.013.4	968/M 304.01/15	valid
AC - Device	G392-004-XX0-XXX	BG1 400V AC 3~ 4A	Steuerprint 1100.840.3 / Leistungsprint 1110.013.4	968/M 304.01/15	valid
AC - Device	G392-006-XX0-XXX	BG1 400V AC 3~ 6A	Steuerprint 1100.840.3 / Leistungsprint 1110.013.4	968/M 304.01/15	valid
AC - Device	G392-008-XX0-XXX	BG2 400V AC 3~ 8A	Steuerprint 1100.840.3 / Leistungsprint 1120.013.2	968/M 304.01/15	valid



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MSD Single-Axis Servo Drive (G392/5-xxx-xx0-xxx)

MSD Single-Axis Servo Drive Compact (G394-xxx-xx0-xxx)

MSD Multi-Axis Servo Drive (G393/7-xxx-xx0-xxx)



Devices	Type Designation MOOG	Description	HW / SW Revision	Report-No.:	Certification Status
AC - Device	G392-012-XX0-XXX	BG2 400V AC 3~ 12A	Steuerprint 1100.840.3 / Leistungsprint 1120.013.2	968/M 304.01/15	valid
AC - Device	G392-016-XX0-XXX G395-016-XX0-XXX	BG3 400V AC 3~ 16A	Steuerprint 1100.840.3 / Leistungsprint 1130.013.3 / Moduladapter 1130.033.2 / Netzteilkarte 1130.053.2	968/M 304.01/15	valid
AC - Device	G392-020-XX0-XXX G395-020-XX0-XXX	BG3 400V AC 3~ 20A	Steuerprint 1100.840.3 / Leistungsprint 1130.013.3 / Moduladapter 1130.033.2 / Netzteilkarte 1130.053.2	968/M 304.01/15	valid
AC - Device	G392-024-XX0-XXX G395-024-XX0-XXX	BG4 400V AC 3~ 24A	Steuerprint 1100.840.3 / Leistungsprint 1140.013.1 / Moduladapter 1140.033.1 / Netzteilkarte 1130.053.2	968/M 304.01/15	valid
AC - Device	G392-032-XX0-XXX G395-032-XX0-XXX	BG4 400V AC 3~ 32A	Steuerprint 1100.840.3 / Leistungsprint 1140.013.1 / Moduladapter 1140.033.1 / Netzteilkarte 1130.053.2	968/M 304.01/15	valid
AC - Device	G392-045-XX0-XXX G395-053-XX0-XXX	BG5 400V AC 3~ 45A	Steuerprint 1100.840.3 / Verbindungsprint 1004.023.5 / Moduladapter 1004.013.5 / Netzteilkarte 1160.013.2	968/M 304.01/15	valid
AC - Device	G392-060-XX0-XXX G395-070-XX0-XXX	BG5 400V AC 3~ 60A	Steuerprint 1100.840.3 / Verbindungsprint 1004.023.5 / Moduladapter 1004.013.5 / Netzteilkarte 1160.013.2	968/M 304.01/15	valid
AC - Device	G392-072-XX0-XXX G395-084-XX0-XXX	BG5 400V AC 3~ 72A	Steuerprint 1100.840.3 / Verbindungsprint 1004.023.5 / Moduladapter 1004.013.5 / Netzteilkarte 1160.013.2	968/M 304.01/15	valid



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MSD Single-Axis Servo Drive Compact (G394-xxx-xx0-xxx)

MSD Multi-Axis Servo Drive (G393/7-xxx-xx0-xxx)



Devices	Type Designation MOOG	Description	HW / SW Revision	Report-No.:	Certification Status
AC - Device	G392-090-XX0-XXX G395-110-XX0-XXX	BG6 400V AC 3~ 90A	Steuerprint 1100.840.3 / Treiberkarte 182-03680 / Snubberkarte 182-03770 / Netzteilkarte 1004.073.5 / Netzeingangskarte 182-03630	968/M 304.01/15	valid
AC - Device	G392-110-XX0-XXX G395-143-XX0-XXX	BG6 400V AC 3~ 110A	Steuerprint 1100.840.3 / Treiberkarte 182-03680 / Snubberkarte 182-03770 / Netzteilkarte 1004.073.5 / Netzeingangskarte 182-03630	968/M 304.01/15	valid
AC - Device	G392-143-XX0-XXX G395-170-XX0-XXX	BG6a 400V AC 3~ 143A	Steuerprint 1100.840.3 / Treiberkarte 182-03680 / Snubberkarte 182-03770 / Netzteilkarte 1004.073.5 / Netzeingangskarte 182-03630	968/M 304.01/15	valid
AC - Device	G392-170-XX0-XXX G395-210-XX0-XXX	BG6a 400V AC 3~ 170A	Steuerprint 1100.840.3 / Treiberkarte 182-03680 / Snubberkarte 182-03770 / Netzteilkarte 1004.073.5 / Netzeingangskarte 182-03630	968/M 304.01/15	valid
AC - Device	G395-250-XX0-XXX	BG7 400V AC 3~ 250A	Steuerprint 1100.043.2 / Treiberkarte 1190.013.1 / Netzteilkarte 1190.023.3 / Netzeingangskarte 1190.033.0	968/M 304.03/17	valid
AC - Device	G395-325-XX0-XXX	BG7 400V AC 3~ 325A	Steuerprint 1100.043.2 / Treiberkarte 1190.013.1 / Netzteilkarte 1190.023.3 / Netzeingangskarte 1190.033.0	968/M 304.03/17	valid
AC - Device	G395-450-XX0-XXX	BG7 400V AC 3~ 450A	Steuerprint 1100.043.2 / Treiberkarte 1190.013.1 / Netzteilkarte 1190.023.3 / Netzeingangskarte 1190.033.0	968/M 304.03/17	valid



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MSD Single-Axis Servo Drive Compact (G394-xxx-xx0-xxx)

MSD Multi-Axis Servo Drive (G393/7-xxx-xx0-xxx)



Devices	Type Designation MOOG	Description	HW / SW Revision	Report-No.:	Certification Status
DC - Device	G393-004-XX0-XXX	BG1 560 – 800V DC 4A	Steuerprint 1100.840.3 / Leistungsprint 1110.013.4	968/M 304.01/15	valid
DC - Device	G393-006-XX0-XXX	BG1 560 – 800V DC 6A	Steuerprint 1100.840.3 / Leistungsprint 1110.013.4	968/M 304.01/15	valid
DC - Device	G393-008-XX0-XXX	BG2 560 – 800V DC 8A	Steuerprint 1100.840.3 / Leistungsprint 1120.013.2	968/M 304.01/15	valid
DC - Device	G393-012-XX0-XXX	BG2 560 – 800V DC 12A	Steuerprint 1100.840.3 / Leistungsprint 1120.013.2	968/M 304.01/15	valid
DC - Device	G393-016-XX0-XXX G397-020-XX0-XXX	BG3 560 – 800V DC 16A	Steuerprint 1100.840.3 / Leistungsprint 1130.013.3 / Moduladapter 1130.033.2 / Netzteilkarte 1130.053.2	968/M 304.01/15	valid
DC - Device	G393-020-XX0-XXX G397-025-XX0-XXX	BG3 560 – 800V DC 20A	Steuerprint 1100.840.3 / Leistungsprint 1130.013.3 / Moduladapter 1130.033.2 / Netzteilkarte 1130.053.2	968/M 304.01/15	valid
DC - Device	G393-024-XX0-XXX G397-026-XX0-XXX	BG4 560 – 800V DC 24A	Steuerprint 1100.840.3 / Leistungsprint 1140.013.1 / Moduladapter 1140.033.1 / Netzteilkarte 1130.053.2	968/M 304.01/15	valid
DC - Device	G393-032-XX0-XXX G397-035-XX0-XXX	BG4 560 – 800V DC 32A	Steuerprint 1100.840.3 / Leistungsprint 1140.013.1 / Moduladapter 1140.033.1 / Netzteilkarte 1130.053.2	968/M 304.01/15	valid
DC - Device	G393-045-XX0-XXX G397-053-XX0-XXX	BG5 560 – 800V DC 45A	Steuerprint 1100.840.3 / Verbindungsprint 1004.023.5 / Moduladapter 1004.013.5 / Netzteilkarte 1160.013.2	968/M 304.01/15	valid
DC - Device	G393-060-XX0-XXX G397-070-XX0-XXX	BG5 560 – 800V DC 60A	Steuerprint 1100.840.3 / Verbindungsprint 1004.023.5 / Moduladapter 1004.013.5 / Netzteilkarte 1160.013.2	968/M 304.01/15	valid

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MSD Multi-Axis Servo Drive (G393/7-xxx-xx0-xxx)



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DC - Device	G393-072-XX0-XXX G397-084-XX0-XXX	BG5 560 – 800V DC 72A	Steuerprint 1100.840.3 / Verbindungsprint 1004.023.5 / Moduladapter 1004.013.5 / Netzteilkarte 1160.013.2	968/M 304.01/15	valid
DC - Device	G393-090-XX0-XXX G397-110-XX0-XXX	BG6a 560 – 800V DC 90A	Steuerprint 1100.840.3 / Treiberkarte 182-03680 / Snubberkarte 182-03770 / Netzteilkarte 1004.073.5 / Netzeingangskarte 182-03630	968/M 304.01/15	valid
DC - Device	G393-110-XX0-XXX G397-143-XX0-XXX	BG6a 560 – 800V DC 110A	Steuerprint 1100.840.3 / Treiberkarte 182-03680 / Snubberkarte 182-03770 / Netzteilkarte 1004.073.5 / Netzeingangskarte 182-03630	968/M 304.01/15	valid
DC - Device	G393-143-XX0-XXX G397-170-XX0-XXX	BG6a 560 – 800V DC 143A	Steuerprint 1100.840.3 / Treiberkarte 182-03680 / Snubberkarte 182-03770 / Netzteilkarte 1004.073.5 / Netzeingangskarte 182-03630	968/M 304.01/15	valid
DC - Device	G393-170-XX0-XXX G397-210-XX0-XXX	BG6a 560 – 800V DC 170A	Steuerprint 1100.840.3 / Treiberkarte 182-03680 / Snubberkarte 182-03770 / Netzteilkarte 1004.073.5 / Netzeingangskarte 182-03630	968/M 304.01/15	valid
DC - Device	G397-250-XX0-XXX	BG7 560 - 800V DC 250A	Steuerprint 1100.043.2 / Treiberkarte 1190.013.1 / Netzteilkarte 1190.023.3	968/M 304.03/17	valid
DC - Device	G397-325-XX0-XXX	BG7 560 - 800V DC 325A	Steuerprint 1100.043.2 / Treiberkarte 1190.013.1 / Netzteilkarte 1190.023.3	968/M 304.03/17	valid

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MSD Single-Axis Servo Drive (G392/5-xxx-xx0-xxx)

MSD Single-Axis Servo Drive Compact (G394-xxx-xx0-xxx)

MSD Multi-Axis Servo Drive (G393/7-xxx-xx0-xxx)

Devices	Type Designation MOOG	Description	HW / SW Revision	Report-No.:	Certification Status
DC - Device	G397-450-XX0-XXX	BG7 560 - 800V DC 450A	Steuerprint 1100.043.2 / Treiberkarte 1190.013.1 / Netzteilkarte 1190.023.3	968/M 304.03/17	valid

Note: The parts of the type designation which are marked with X are considered to be not safety relevant. They only describe options for communication, encoders, enclosure, cooling, software status and special versions.

Remark:

The type of the power feed is in the Gxxx labeling encoded
 G392 = MSD Single-Axis Servo Drive air – cooled
 G395 = MSD Single-Axis Servo Drive liquid – cooled
 G393 = MSD Multi-Axis Servo Drive air – cooled
 G397 = MSD Multi-Axis Servo Drive liquid – cooled
 G394 = Stands for MSD Servo Drive

The above has been agreed between the manufacturer, the certifier and the Test Institute.

Document Revision:

Date	Rev.	Description / Changes	Author
2015-09-15	1.0.0	Initial creation, based on Report-No.: 968/M 304.01/15	Sty/A-FS
2015-09-15	1.1.0	Exchange the product designation	Sty/A-FS
2017-03-27	1.2.0	Increase the revision list of three new product types: G397-250-XX0-XXX; G397-325-XX0-XXX and G397-450-XX0-XXX	Sty/A-FS
2017-10-19	1.2.1	Correction: Increase the revision list 1.2.0 dated 2017-03-27 Add the product BG7 (type designation G395-250-xx0-xxx; G395-325-xx0-xxx; G395-450-xx0-xxx)	Sty/A-FS