

MODULAR MULTI-AXIS SERVO DRIVE SYSTEM

MSD



MODEL NUMBER OVERVIEW
FOR MSD SERVO DRIVE

MSD Servo Drive and MSD Single-Axis Servo Drive Compact

Model Number Overview



Servo Drive 2 A to 450 A

Single-Axis System and Multi-Axis System

ID no.: CC93963-001, Rev. 5.0

Date: 03/2023

MSD MOTION CONTROLLER

Model number (assigned at the factory)

Type designation

G391

-

1

2

3

001 MSD Motion Controller

3 Option - Fieldbus

001

EtherCAT master/CAN/CANopen

002

EtherCAT master/CAN/CANopen + PROFIBUS-DP slave

OBSOLETE

MSD Single-Axis Servo

Drive Air-cooled

Model number (assigned at the factory) Type designation

	1	2	3	4	5	6	7	8	9
G392	-								

1 Rated current/maximum current (at 8kHz switching frequency)

004	4/8 A Size 1
006	6/12 A Size 1
008	8/16 A Size 2
012	12/24 A Size 2
016	16/32 A Size 3
020	20/40 A Size 3
024	24/48 A Size 4
032	32/64 A Size 4
045	45/90 A Size 5 ¹⁾
060	60/120 A Size 5 ¹⁾
072	72/144 A Size 5 ¹⁾
090	90/180 A Size 6 ¹⁾
110	110/165 A Size 6 ¹⁾
143	143/215 A Size 6A ¹⁾
170	170/220 A Size 6A ¹⁾

2 Supply voltage

-	3 x 230 V to 480 V
A	1 x 230 V ²⁾

3 Option 1 - Communication module

0	None
1	EtherCAT
2	CANopen
3	PROFIBUS-DP
4	SERCOS II
5	CANopen + 2 AO
6	SERCOS III
8	PROFINET IRT

4 Option 2 - Technology module

0	None
1	Second Sin/Cos encoder
2	TTL encoder simulation/TTL master encoder
4	TwinSync communication
5	TTL encoder with commutation signal
6	SSI encoder simulation
7	Analog I/O option card, 16 bit
A	N. A.
B	N. A.
C	N. A.

5 Option 3 - Functional safety

0	STO
1	Integrated Functional Safety ³⁾

9 Dual Use

L	Maximum output frequency limited to 599 Hz to be Non Dual Use
---	---

8 Variant sequential numbering

01	Standard
02	Internal brake resistor Conformal coating ⁵⁾
04	Internal brake resistor & conformal coating ⁵⁾

7 Modification

0	Standard
1	Analog input 4 to 20 mA on control card ⁴⁾

6 Option 4 - Function package

-	Standard
P	With PLC
Q	Hydraulic closed loop control
R	Hydraulic closed loop control + PLC

- 1) Not with internal braking resistor available
- 2) Only available for G392-004
- 3) Integrated Functional Safety available for sizes 1 to 5
- 4) Not available with Safety
- 5) As from size 5 available only with conformal coating

MSD Multi-Axis Servo Drive

Air-cooled

Model number (assigned at the factory) Type designation

G393	-	1	2	3	4	5	6	7	8	9
------	---	---	---	---	---	---	---	---	---	---

1 Rated current/maximum current (at 8kHz switching frequency and 565 V _{DC})		
004	4/8 A	Size 1
006	6/12 A	Size 1
008	8/16 A	Size 2
012	12/24 A	Size 2
016	16/33 A	Size 3
020	20/42 A	Size 3
024	24/48 A	Size 4
032	32/64 A	Size 4
045	45/90 A	Size 5
060	60/120 A	Size 5
072	72/144 A	Size 5
090	90/180 A	Size 6A
110	110/165 A	Size 6A
143	143/215 A	Size 6A
170	170/220 A	Size 6A

3 Option 1 - Communication module	
0	None
1	EtherCAT
2	CANopen
3	PROFIBUS-DP
4	SERCOS II
5	CANopen + 2 AO
6	SERCOS III
8	PROFINET IRT

4 Option 2 - Technology module	
0	None
1	Second Sin/Cos encoder
2	TTL encoder simulation/TTL master encoder
4	TwinSync communication
5	TTL encoder with commutation signal
6	SSI encoder simulation
7	Analog I/O option card, 16 bit
A	N. A.
B	N. A.
C	N. A.

5 Option 3 - Functional safety	
0	STO
1	Integrated Functional Safety ¹⁾ (consult factory)

9 Dual Use	
L	Maximum output frequency limited to 599 Hz to be Non Dual Use

8 Variant sequential numbering	
01	Standard
03	Conformal coating ³⁾

7 Modification	
0	Standard
1	Analog input 4 to 20 mA on control card ²⁾

6 Option 4 - Function package	
-	Standard
P	With PLC
Q	Hydraulic closed loop control
R	Hydraulic closed loop control + PLC

- 1) Integrated Functional Safety available for sizes 3 to 5
 2) Not available with Safety
 3) As from size 5 available only with conformal coating

MSD Single-Axis Servo Drive Compact

Model number (assigned at the factory) Type designation

G394	-	1	2	3	4	5	6	7	9
------	---	---	---	---	---	---	---	---	---

1	Rated current/maximum current
020	2.0/6.0 A Size C2 - 400 V 3-2)
030	3.0/9.0 A Size C2 - 230 V 3- 1-1) 2)
035	3.5/10.5 A Size C3 - 400 V 3-
059	5.9/17.7 A Size C3 - 230 V 3- 1-1)
065	6.5/19.5 A Size C4 - 400 V 3-
080	8.0/24.0 A Size C4 - 230 V 3- 1-1)
120	12.0/36.0 A Size C5 - 400 V 3-
160	16.0/48.0 A Size C5 - 400 V 3-

3	Option 1 - Communication module
0	None
1	EtherCAT
2	CANopen
3	PROFIBUS-DP
4	SERCOS II
6	SERCOS III
8	PROFINET IRT

4	Option 2 - Technology module
0	None
1	Second Sin/Cos encoder
2	TTL encoder simulation/TTL master encoder
4	TwinSync communication
5	TTL encoder with commutation signal
8	HIPERFACE DSL consult factory

5	Option 3 - Functional safety
0	Standard

9	Dual Use
L	Maximum output frequency limited to 599 Hz to be Non Dual Use

7	Variant sequential numbering
001	Standard (air-cooled)
002	Internal brake resistor (not size C2)
003	Conformal coating
004	Internal brake resistor & conformal coating (not size C2)

6	Option 4 - Function package
-	Standard
P	With PLC

1) Single phase with derating

2) A braking resistor is always integrated; connection of an external resistor is permissible

MSD Single-Axis Servo Drive

Liquid-cooled

Model number (assigned at the factory) Type designation

		1	2	3	4	5	6	7	8	9	
G395	-			-						-	

1 Rated current/maximum current (at 8kHz switching frequency)

016	16/32 A	Size 3
020	20/40 A	Size 3
024	24/48 A	Size 4
032	32/64 A	Size 4
053	53/90 A	Size 5
070	70/120 A	Size 5
084	84/144 A	Size 5
110	110/187 A	Size 6
143	143/215 A	Size 6
170	170/255 A	Size 6A
210	210/255 A	Size 6A
250	250/375 A	Size 7 ¹⁾
325	325/485 A	Size 7 ¹⁾
450	450/675 A	Size 7 ¹⁾

3 Option 1 - Communication module

0	None
1	EtherCAT
2	CANopen
3	PROFIBUS-DP
4	SERCOS II
5	CANopen + 2 AO
6	SERCOS III
8	PROFINET IRT

4 Option 2 - Technology module

0	None
1	Second Sin/Cos encoder
2	TTL encoder simulation/TTL master encoder
4	TwinSync communication
5	TTL encoder with commutation signal
6	SSI encoder simulation
7	Analog I/O option card, 16 bit
A	N. A.
B	N. A.
C	N. A.

5 Option 3 - Functional safety

0	STO
1	Integrated Functional Safety ²⁾

9 Dual Use

L	Maximum output frequency limited to 599 Hz to be Non Dual Use
---	---

8 Variant sequential numbering

01	Standard
02	Internal brake resistor
03	Conformal coating (not size 3 and 4) ⁴⁾
04	Internal brake resistor & conformal coating (not size 3 and 4) ⁴⁾

7 Modification

0	Standard
1	Analog input 4 to 20 mA on control card ³⁾

6 Option 4 - Function package

-	Standard
P	With PLC
Q	Hydraulic closed loop control
R	Hydraulic closed loop control + PLC

- 1) 4 kHz switching frequency
- 2) Integrated Functional Safety available for sizes 3 to 5
- 3) Not available with Safety
- 4) As from size 5 available only with conformal coating

MSD Power Supply Unit

Model number (assigned at the factory) Type designation

G396	-	1	2	3	4	5	6	7

1 Rated power/maximum power

026	26/52 kW	Size 5
050	50/94 kW	Size 5
075	75/127 kW	Size 6A
110	110/160 kW	Size 6A
250	250/375 kW	Size 7
360	360/375 kW	Size 7

3 Option 1 - Communication module

0	None
1	EtherCAT
2	CANopen
3	PROFIBUS-DP
4	SERCOS II

4 For future use

0	Standard
---	----------

5 Housing/cooling method

1	Air-cooled ¹⁾
2	Liquid-cooled

7 Variant sequential numbering

001	Standard ²⁾
002	Internal brake resistor (only with liquid-cooled housing) ²⁾

6 Option 4 - Function package

-	Standard
P	With PLC

1) Not size 7

2) Always with conformal coating

MSD Multi-Axis Servo Drive

Liquid-cooled

Model number (assigned at the factory) Type designation

G397	-	1	2	3	4	5	6	7	8	9
------	---	---	---	---	---	---	---	---	---	---

1	Rated current/maximum current (at 8kHz switching frequency and 565 V _{DC})	
020	20/33 A	Size 3
025	25/42 A	Size 3
026	26/48 A	Size 4
035	35/64 A	Size 4
053	53/90 A	Size 5
070	70/120 A	Size 5
084	84/144 A	Size 5
110	110/187 A	Size 6A
143	143/215 A	Size 6A
170	170/255 A	Size 6A
210	210/255 A	Size 6A
250	250/425 A	Size 7 ¹⁾
325	325/552 A	Size 7 ¹⁾
450	450/765 A	Size 7 ¹⁾

3	Option 1 - Communication modules
0	None
1	EtherCAT
2	CANopen
3	PROFIBUS-DP
4	SERCOS II
5	CANopen + 2 AO
6	SERCOS III
8	PROFINET IRT

4	Option 2 - Technology modules
0	None
1	Second Sin/Cos encoder
2	TTL encoder simulation/TTL master encoder
3	CANopen + 2 analog outputs
4	TwinSync communication
5	TTL encoder with commutation signal
6	SSI encoder simulation
7	Analog I/O option card, 16 bit
A	N. A.
B	N. A.
C	N. A.

5	Option 3 - Functional safety
0	STO
1	Integrated Functional Safety ²⁾ (consult factory)

9	Dual Use
L	Maximum output frequency limited to 599 Hz to be Non Dual Use

8	Variant sequential numbering
01	Standard
03	Conformal coating ⁴⁾

7	Modification
0	Standard
1	Analog input 4 to 20 mA on control card ³⁾

6	Option 4 - Function package
-	Standard
P	With PLC
Q	Hydraulic closed loop control
R	Hydraulic closed loop control + PLC

- 1) 4 kHz switching frequency
- 2) Integrated Functional Safety available for size 3 to 5
- 3) Not available with Safety
- 4) As from size 5 available only with conformal coating

TAKE A CLOSER LOOK.

Moog solutions are only a click away. Visit our worldwide Website for more information and the Moog facility nearest you.

MOOG

Moog GmbH
Hanns-Klemm-Straße 28
D-71034 Böblingen
Phone +49 7031 622 0

www.moog.com/industrial
drives-support@moog.com

Moog is a registered trademark of Moog, Inc. and its subsidiaries.
All quoted trademarks are property of Moog, Inc. and its subsidiaries. All rights reserved.
© 2023 Moog GmbH

ID no.: CC93963-001, Rev. 5.0
Date: 03/2023

