



FAGOR MCS/ACSD Series Servo Drive System

FAGOR Brushless Servo Drive System

FAGOR A.C. Servodrive

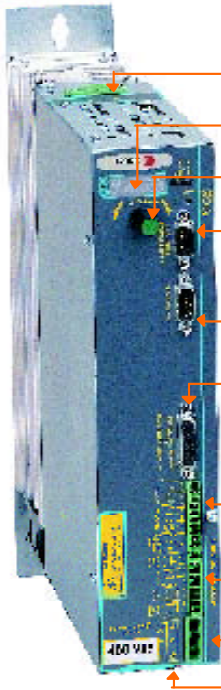
The FAGOR MCS/ACSD Servo drives make up a family of compact speed-drives for controlling Brushless synchronous AC motors.

FAGOR MCS / ACSD DRIVE							
	220 V (L)				400 V (H)		
	MCS-05 ACSD-05	MCS-10 ACSD-10	MCS-20 ACSD-20	MCS-30 ACSD-30	MCS-04 ACSD-04	MCS-08 ACSD-08	MCS-16 ACSD-16
RATED OUTPUT CURRENT (Amp)	2.5	5	10	15	2	4	8
PEAK CURRENT -0.5 SEC (Amp)	5	10	20	30	4	8	16
POWER SUPPLY	Three-phase mains, 50/60 Hz, with a voltage range between 220 Vac-15% and 240 Vac + 10%				Three-phase mains, 50/60 Hz, with a voltage range between 220 Vac-15% and 240 Vac + 10%		
CONSUMPTION (Amp-rms)	5.6	11.1	22.2	33.3	4.4	8.9	16.7
OVERVOLTAGE PROTECTION	430 Vdc				780 Vdc		
INTERNAL BALLAST (Ohms)	112	56	28	18	164	82	41
INTERNAL BALLAST WATTAGE	200 W						
BALLAST TRIGGER	416 Vdc				750 Vdc		
HEATSINK THERMAL PROTECTION	90°C (194°F)						
OPERATING TEMPERATURE	5°C / 45°C (41°F / 113°F)						
STORAGE TEMPERATURE	-20°C / 60°C (-4°F / 140°F)						
DEGREE OF PROTECTION	IP20						
MODULE DIMENSIONS	67 x 280 x 245 mm. (2.48 x 11.8 x 9.05 inches)						
MODULE WEIGHT	3.85 kg (8.5 lbs)						

PROPERTIES	MCS	ACSD
Dynamic braking in case of mains failure	●	●
Logic inputs Speed Enable & Drive Enable for motor control	●	●
One programmable logic input	●	●
16-bit analog voltage input	●	-
One programmable logic output	●	●
Two auxiliary 8-bit analog outputs	●	●
Incremental encoder input (TTL)	MCS-L	ACSD-L
Sincoder encoder input	MCS-H	ACSD-H
Encoder simulator output	●	-
Input for direct incremental / Vpp feedback	-	●
Communication interfaces: RS-232, RS-422 & RS-485	●	●
Communication protocols: DNC and MODBUS	●	●
CAN OPEN field bus	-	●
ON-LINE parameter editing	●	●
Integrated programming operator	●	-



MCS



1. Outputs for external ballast resistor
2. Numerical displays
3. Rotary selector with confirmation button
4. RS-422 and RS-485 line for communications with other equipment and RS-232 for software updates
5. Programmable "encoder simulator output"
6. Input for motor encoder signal, TTL incremental or 1Vpp
7. Analog voltage signals, programmable analog outputs and auxiliary power supply to generate analog voltage
8. Digital control inputs and outputs
9. Control voltage (2x220 Vac or 400 Vac according to model)
10. Power voltage (3x220 Vac or 400 Vac according to model)

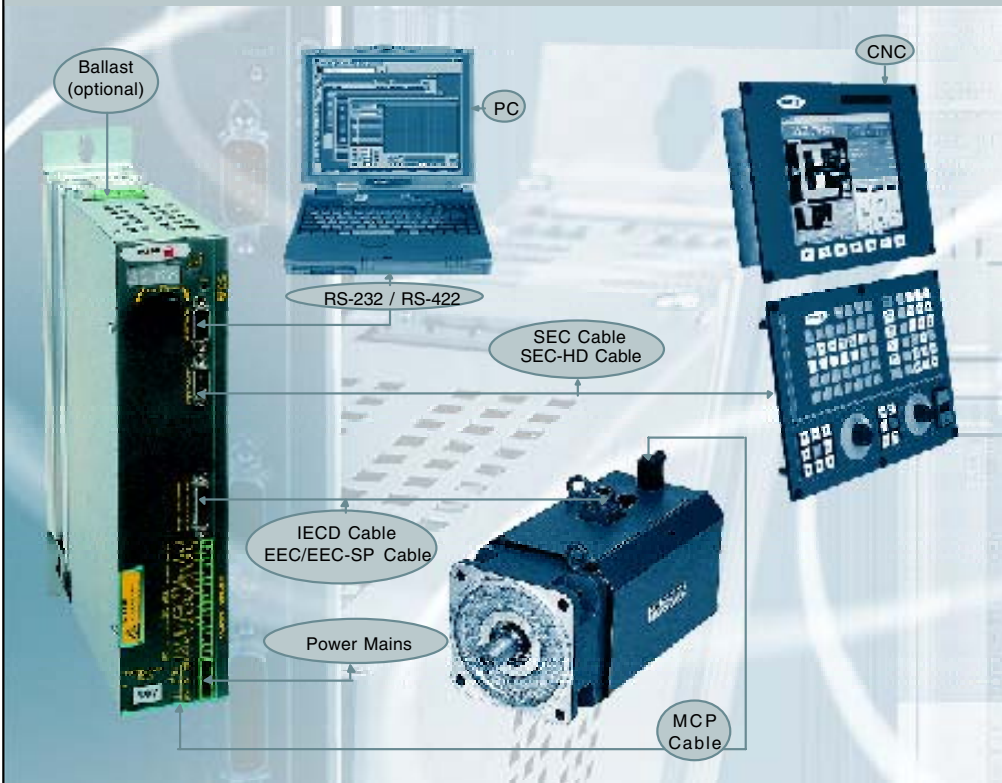
ACSD



1. Outputs for external ballast resistor
2. RS-422 and RS-232 for parameter setting via PC
3. Connections for CAN interface + CAN node selector
4. Direct-feedback input
5. Input for motor encoder signal, TTL incremental or 1Vpp
6. Analog voltage input, programmable analog outputs and auxiliary power supply to generate analog voltage
7. Digital control inputs and outputs
8. Control voltage (2x220 Vac or 400 Vac according to model)
9. Power voltage (3x220 Vac or 400 Vac according to model)

MCS

Basic interconnection diagram



SEC: Encoder simulator cable to connect to the 8055 CNC.
Lengths: 1, 3, 5, 10, 15, 20 and 25 meters.

SEC-HD: Encoder simulator cable to connect to the 8040 and 8055-i CNC's.
Lengths: 1, 3, 5, 10, 15, 20 and 25 meters.

IECD: Encoder for MCS-L drives. Lengths: 5, 10, 15, 20 and 25 meters.

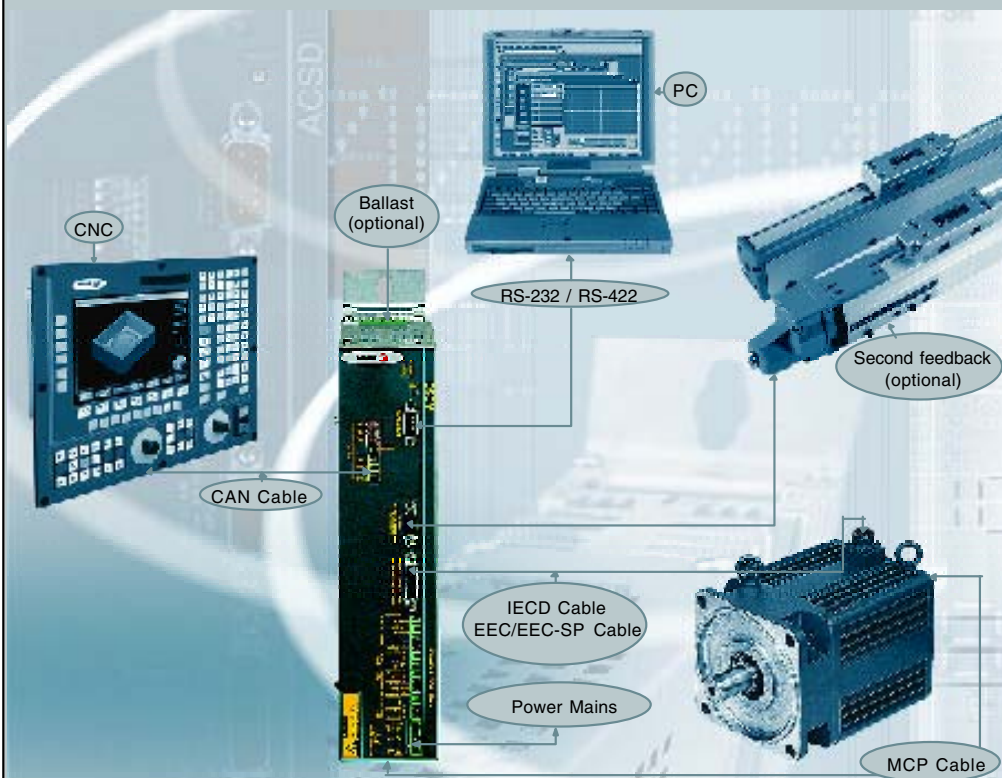
EEC: Encoder cable with overall shield for MCS-H drives.
Lengths: 5, 10, 15, 20, 25, 30, 35, 40, 45 and 50 meters.

EEC-SP: Encoder cable with shielded twisted pairs and overall shield for MCS-H.
Lengths: 5, 10, 15, 20, 25, 30, 35, 40, 45 and 50 meters.

MCP: Motor power cable.

ACSD

Basic interconnection diagram



IECD: Encoder cable for MCS-L drives.
Lengths: 5, 10, 15, 20 and 25 meters.

EEC: Encoder cable with overall shield for MCS-H drives.
Lengths: 5, 10, 15, 20, 25, 30, 35, 40, 45 and 50 meters.

EEC-SP: Encoder cable with shielded twisted pairs and overall shield for MCS-H.
Lengths: 5, 10, 15, 20, 25, 30, 35, 40, 45 and 50 meters.

MCP: Motor power cable.

Brushless A.C. motors

MCS/ACSD

For 220V

FXM series Brushless AC Motors

This synchronous motor series with permanent magnets (SmCo) offers unmatched dynamic characteristics, sturdiness and great acceleration capability. Velocity feedback is obtained through an encoder.

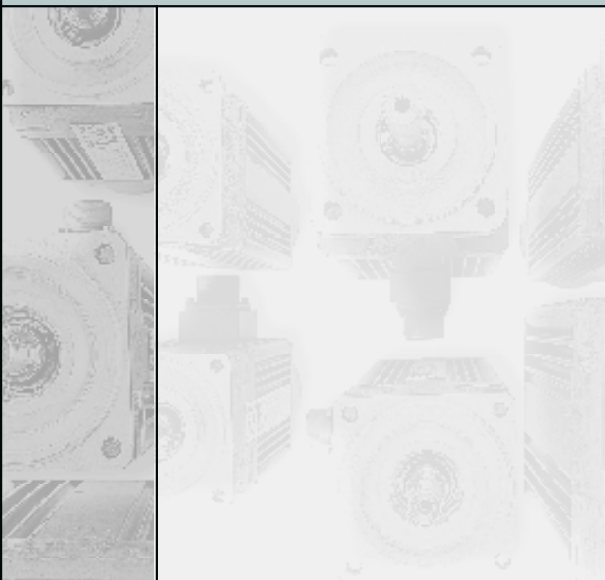
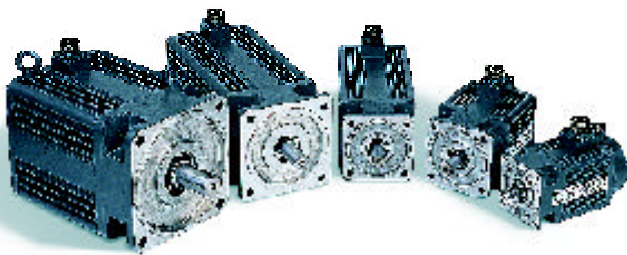
They may also have an optional brake and/or shaft with keyway.

	Stall torque (Nm)	Peak torque (Nm)	Stall Current for Motors			Inertia (kg.cm ²)	Weight (kg)
			1200 (rpm)	2000 (rpm)	4000 (rpm)		
			Io (Arms)				
FXM 11	1.2	6			2	1.2	3.3
FXM 12	2.3	11			3.9	1.9	4.3
FXM 13	3.3	16			5.6	2.6	6.4
FXM 14	4.1	20		3.5	6.9	3.3	7.6
FXM 31	2.6	13		2.2	4.4	3.5	5.5
FXM 32	5.1	25		4.3	8.4	6	7.5
FXM 33	7.3	36		6.3	12	8.5	9.6
FXM 34	9.3	46		7.6	15	11	11.5
FXM 53	11.9	59		9.9		22	15.8
FXM 54	14.8	74		12.7		29	17.8
FXM 55	17.3	86	9.1	15		36	20
FXM 73	20.8	104	10.7			61	29
FXM 74	27.3	135	13.5			79	31.6
FXM 75	29.5	165	15			97	36

MCS/ACSD

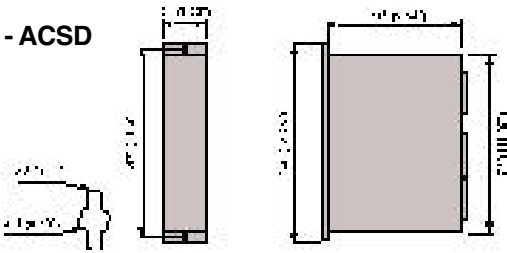
For 400V

	Stall torque (Nm)	Peak torque (Nm)	Stall Current for Motors				Inertia (kg.cm ²)	Weight (kg)
			1200 (rpm)	2000 (rpm)	3000 (rpm)	4000 (rpm)		
			Io (Arms)					
FXM 11	1.2	6		0.45	0.67	0.9	1.2	3.3
FXM 12	2.3	11		0.86	1.29	1.72	1.9	4.3
FXM 13	3.3	16		1.23	1.85	2.5	2.6	6.4
FXM 14	4.1	20		1.53	2.3	3.1	3.3	7.6
FXM 31	2.6	13		0.97	1.45	1.92	3.5	5.5
FXM 32	5.1	25		1.89	2.8	3.8	6	7.5
FXM 33	7.3	36		2.7	4.1	5.5	8.5	9.6
FXM 34	9.3	46		3.4	5.1	6.9	11	11.5
FXM 53	11.9	59	2.8	4.7	7.1		22	15.8
FXM 54	14.8	74	3.5	5.9			29	17.8
FXM 55	17.3	86	4.1	6.7			36	20
FXM 73	20.8	104	4.9	8			61	29
FXM 74	27.3	135	6.6				79	31.6
FXM 75	33.6	165	8				97	36

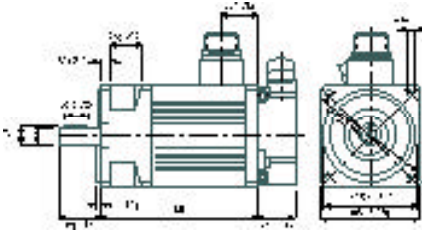


Dimensions in mm. (inches)

MCS - ACSD

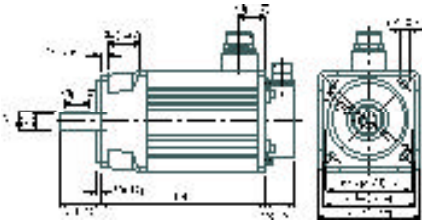


FXM 1



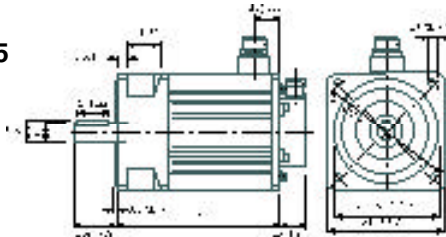
FXM 1	LB	D	GA
FXM 11	136 (5.35)	14 (0.55) j6	16 (0.62)
FXM 12	171 (6.7)	14 (0.55) j6	16 (0.62)
FXM 13	206 (8.11)	14 (0.55) j6	16 (0.62)
FXM 14	241 (9.48)	14 (0.55) j6	16 (0.62)

FXM 3



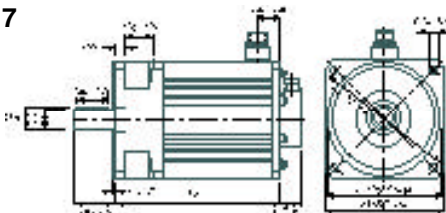
FXM 3	LB	D	GA
FXM 31	153 (6.02)	19 (0.75) j6	21.5 (0.85)
FXM 32	188 (7.4)	19 (0.75) j6	21.5 (0.85)
FXM 33	223 (8.77)	19 (0.75) j6	21.5 (0.85)
FXM 34	258 (10.15)	19 (0.75) j6	21.5 (0.85)

FXM 5



FXM 5	LB	D	GA
FXM 53	238 (9.37)	24 (0.94) j6	27 (1.07)
FXM 54	273 (10.74)	24 (0.94) j6	27 (1.07)
FXM 55	308 (12.12)	24 (0.94) j6	27 (1.07)

FXM 7



FXM 7	LB	D	GA
FXM 73	257 (10.11)	32 (1.26) k6	35 (1.38)
FXM 74	292 (11.49)	32 (1.26) k6	35 (1.38)
FXM 75	327 (12.87)	32 (1.26) k6	35 (1.38)

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Worldwide reliability.