R88D-1SN□□□-ECT

1S servo drive
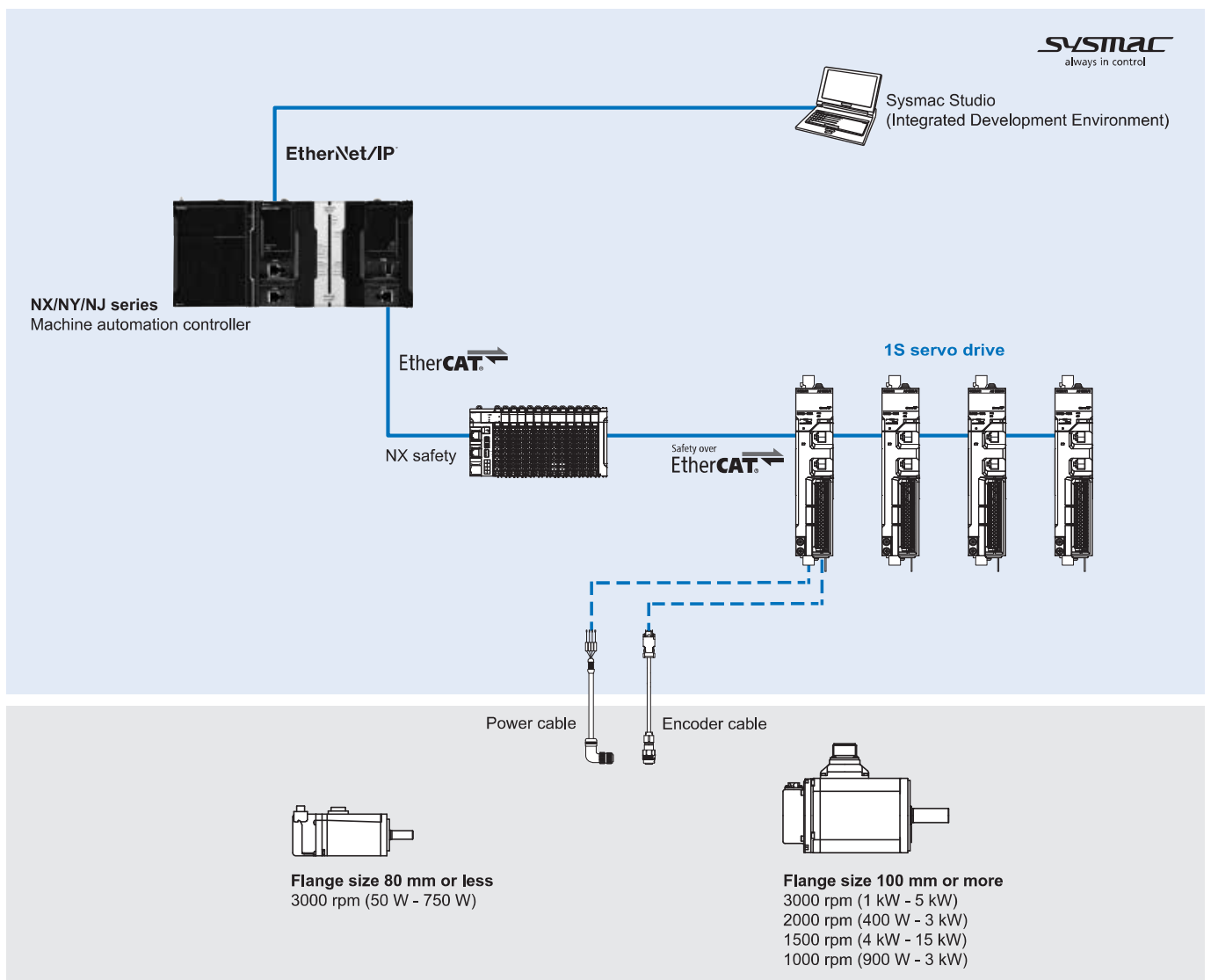
Sysmac general purpose servo

- 23-bit resolution encoder
- Fast and secure screw-less push-in in all connectors
- Pluggable connectors for easy pre-wiring and system maintenance
- Direct wiring of I/O signals
- Embedded relay for direct motor brake control
- Improved loop control for overshoot and quick setting time
- Safety function built-in:

  Network Safe Torque Off: PLd (EN ISO 13849-1), SIL2 (IEC 61508)

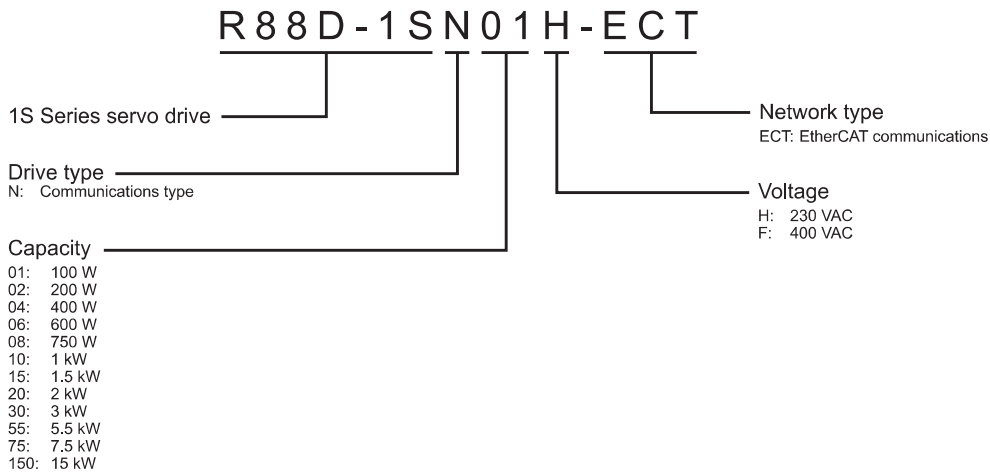 Hardwired Safe Torque Off: PLe (EN ISO 13849-1), SIL3 (IEC 61508)

Ratings

- 230 VAC single-phase: 100 W to 1.5 kW
- 400 VAC three-phase: 600 W to 15 kW

System configuration

Sysmac
always in control
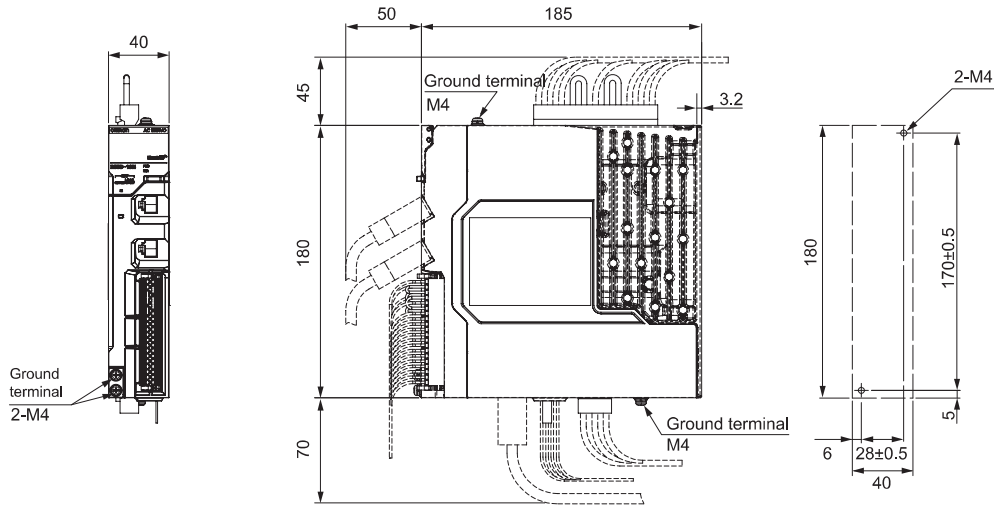
EtherNet/IP™

Sysmac Studio
(Integrated Development Environment)

NX/NY/NJ series
Machine automation controller

EtherCAT.

1S servo drive

NX safety

Safety over
EtherCAT.

Power cable   Encoder cable

Flange size 80 mm or less
3000 rpm (50 W - 750 W)

Flange size 100 mm or more
3000 rpm (1 kW - 5 kW)
2000 rpm (400 W - 3 kW)
1500 rpm (4 kW - 15 kW)
1000 rpm (900 W - 3 kW)

OMRON

Type designation

R 8 8 D - 1 S N 0 1 H - E C T

1S Series servo drive

Drive type
N: Communications type

Capacity
01: 100 W
02: 200 W
04: 400 W
06: 600 W
08: 750 W
10: 1 kW
15: 1.5 kW
20: 2 kW
30: 3 kW
55: 5.5 kW
75: 7.5 kW
150: 15 kW

Network type
ECT: EtherCAT communications

Voltage
H: 230 VAC
F: 400 VAC

Specifications

Single-phase, 230 V

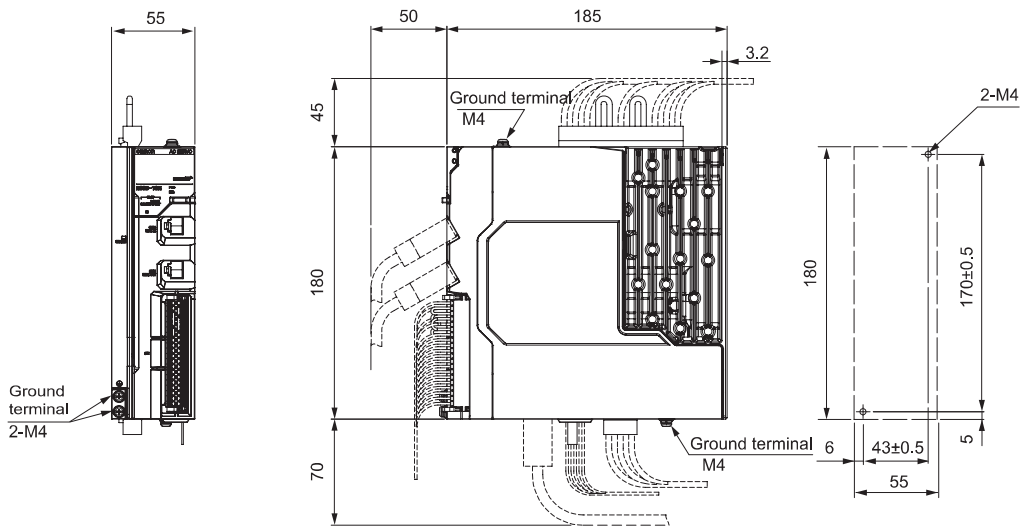| Servo drive model			R88D-1SN01H-ECT	R88D-1SN02H-ECT	R88D-1SN04H-ECT	R88D-1SN08H-ECT	R88D-1SN15H-ECT
Applicable servo motor	3000 r/min		R88M-1M05030T R88M-1M10030(H/T)	R88M-1M20030(H/T)	R88M-1M40030(H/T)	R88M-1M75030(H/T)	R88M-1L1K030(H/T) R88M-1L1K530(H/T)
	2000 r/min		-	-	-	-	R88M-1M1K020(H/T) R88M-1M1K520(H/T)
	1000 r/min		-	-	-	-	R88M-1M90010T
Max. applicable motor capacity	W		100	200	400	750	1500
Input	Control circuit	Power supply voltage	V	24 VDC (21.6 to 26.4 V)			
	Main circuit	Power supply voltage	V	Single-phase 200 to 240 VAC (170 to 252 V)			
		Frequency	Hz	50/60 Hz (47.5 to 63 Hz)			
	Rated input current	Single-phase	Arms	1.8	2.7	4.6	7.3	15.7
Output	Rated output current		Arms	0.8	1.5	2.5	4.6	9.7
	Max. current		Arms	3.1	5.6	9.1	16.9	28.4
Basic	Ambient operating/storage temperature		0 to 55°C/-20 to 65°C				
	Ambient operating/storage humidity		90% RH or less (without condensation)				
	Atmosphere		Must be free from corrosive gases				
	Altitude		1000 m or less				
	Vibration resistance (max.)		5.88 m/s^2, 10 to 60 Hz (continuous operation at resonance point is not allowed)				
	Degree of protection		IP20 (Built into IP54 panel)				
Weight		kg	1.2	1.2	1.5	2.0	3.4

OMRON

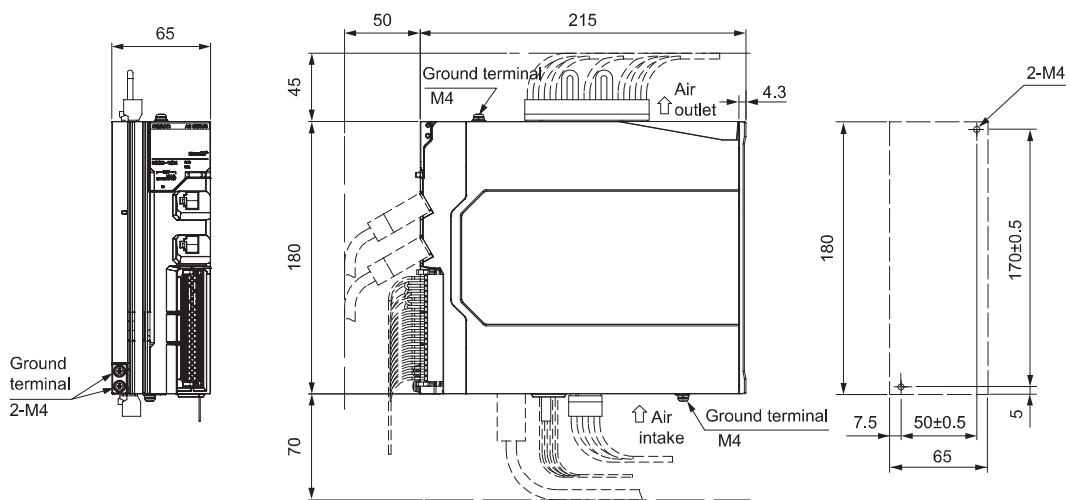## Dimensions

Servo drives

R88D-1SN01H-ECT/02H-ECT (230 V, 100 W to 200 W)

R88D-1SN04H-ECT (230 V, 400 W)

R88D-1SN08H-ECT (230 V, 750 W)

Servo drives

Symbol	Specifications		Compatible 1S servo motor	Model
④	Single-phase 230 VAC	50 W	R88M-1M05030T-□	R88D-1SN01H-ECT
		100 W	R88M-1M10030(H/T)-□	
		200 W	R88M-1M20030(H/T)-□	R88D-1SN02H-ECT
		400 W	R88M-1M40030(H/T)-□	R88D-1SN04H-ECT
		750 W	R88M-1M75030(H/T)-□	R88D-1SN08H-ECT
		1.5 kW	R88M-1L1K030(H/T)-□	R88D-1SN15H-ECT
			R88M-1L1K530(H/T)-□	
			R88M-1M1K020(H/T)-□	
			R88M-1M1K520(H/T)-□	
			R88M-1M90010T-□	
	Three-phase 400 VAC	600 W	R88M-1M40020C-□	R88D-1SN06F-ECT
			R88M-1M60020C-□	
		1 kW	R88M-1L75030C-□	R88D-1SN10F-ECT
			R88M-1L1K030C-□	
			R88M-1M1K020C-□	
			R88M-1M90010C-□	
		1.5 kW	R88M-1L1K530C-□	R88D-1SN15F-ECT
			R88M-1M1K520C-□	
		2 kW	R88M-1L2K030C-□	R88D-1SN20F-ECT
			R88M-1M2K020C-□	
			R88M-1M2K010C-□	
		3 kW	R88M-1L3K030C-□	R88D-1SN30F-ECT
			R88M-1M3K020C-□	
			R88M-1M3K010C-□	
		5.5 kW	R88M-1L4K030C-□	R88D-1SN55F-ECT
			R88M-1M4K015C-□	
			R88M-1L5K030C-□	
			R88M-1M5K515C-□	
		7.5 kW	R88M-1M7K515C-□	R88D-1SN75F-ECT
		15 kW	R88M-1M11K015C-□	R88D-1SN150F-ECT
			R88M-1M15K015C-□	

Filters

Symbol	Applicable 1S servo drive	Manufacturer	Rated current	Leakage current	Rated voltage	Model
⑤	R88D-1SN01H-ECT, R88D-1SN02H-ECT	Schaffner EMC Co. Ltd.	3 A	7.83 mA	250 VAC	R88A-FI1S103-SE
	R88D-1SN04H-ECT		5 A			R88A-FI1S105-SE
	R88D-1SN08H-ECT		8 A			R88A-FI1S108-SE
	R88D-1SN15H-ECT		16 A			R88A-FI1S116-SE
	R88D-1SN06F-ECT, R88D-1SN10F-ECT, R88D-1SN15F-ECT, R88D-1SN20F-ECT, R88D-1SN30F-ECT		9 A	1.2 mA	400 VAC	R88A-FI1S309-SE
	R88D-1SN55F-ECT, R88D-1SN75F-ECT		30 A	0.6 mA		R88A-FI1S330-SE
	R88D-1SN150F-ECT		50 A	2.4 mA		R88A-FI1S350-SE

External regeneration resistor

Symbol	Resistance value	Regeneration absorption for 120°C temperature rise	Nominal capacity	Model
⑥	25 Ω	24 W	120 W	R88A-RR12025
	20 Ω	60 W	300 W	R88A-RR30020
	25 Ω			R88A-RR30025
	33 Ω			R88A-RR30033
	16 Ω			R88A-RR30016
	10 Ω			R88A-RR30010

⑦ USB cable

Use a commercially available USB cable that is double-shielded, gold-plated and supports USB 2.0. The Micro B type USB cable can be used.

Machine controller

Symbol	Name		Model
⑧	Industrial PC	Box PC type	NY512-□
		Panel PC type (Box PC + Monitor integrated)	NY532-□
	Modular controller	NX7 series	NX701-□
		NJ series	NJ□01-□
		NX1 series	NX102-□
	Compact controller	NX1P series	NX1P2-□