

Архангельск (8182)63-90-72
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Иваново (4932)77-34-06

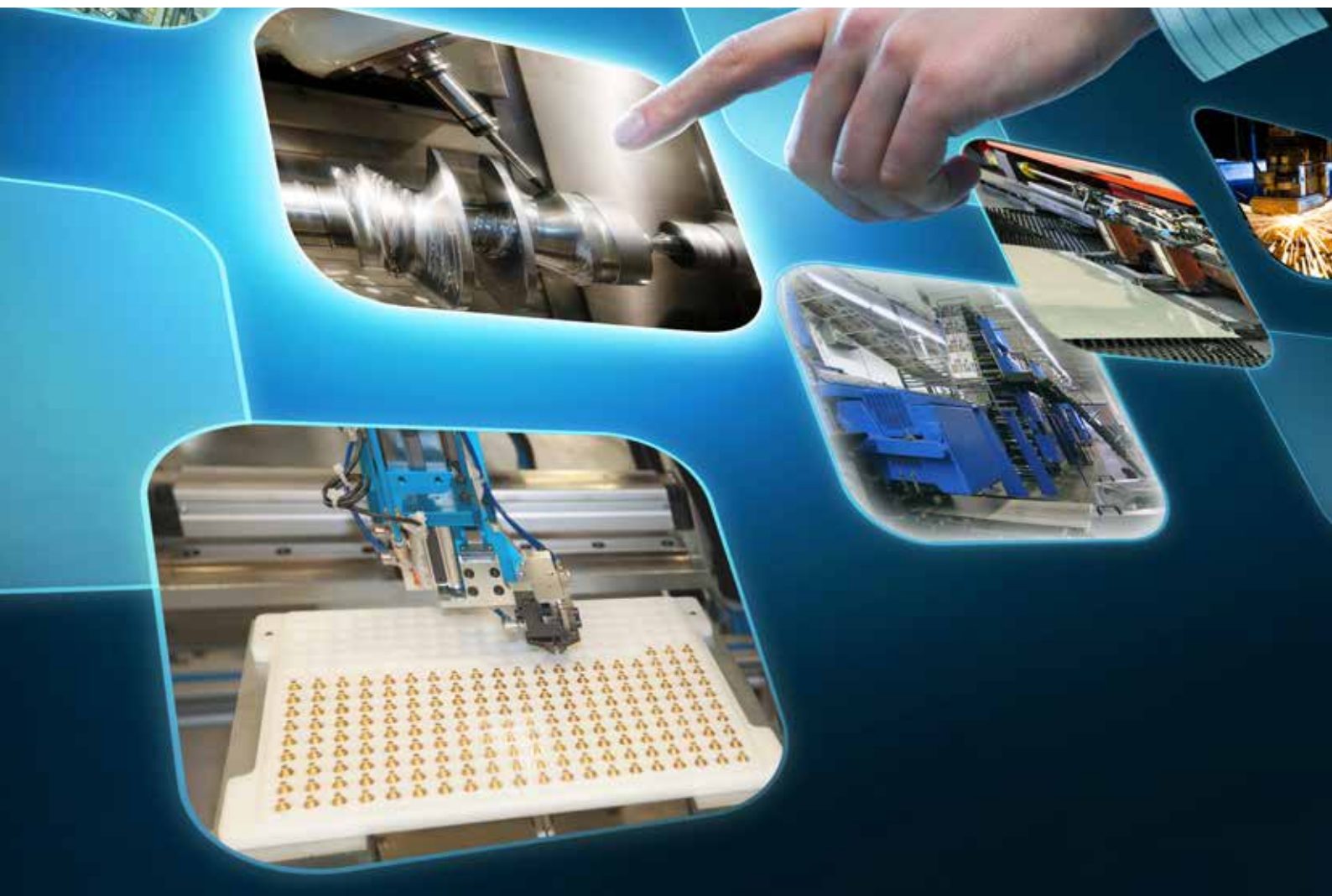
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
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Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Таджикистан (992)427-82-92-69

Сургут (3462)77-98-35
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
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Automation for a Changing World

Delta Controller with Human Machine Interface HMC Series



High Quality Display, Precise Control: The Optimum Combination of Display and Controller

Standard Type

HMC08



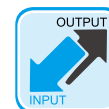
Manual Pulse Generator
(MPG)



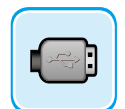
64K Colors TFT



DMCNET



Digital I/O



USB Disk



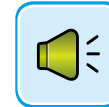
DMCNET



Ethernet



SD Card



Audio Output

Handheld Type

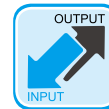
HMC07



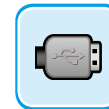
64K Colors TFT



DMCNET



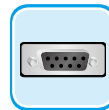
Digital I/O



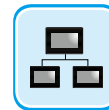
USB Disk



Emergency Stop



DMCNET



Ethernet



SD Card

New



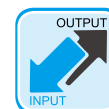
Manual Pulse Generator
(MPG)



64K Colors TFT



DMCNET



Digital I/O



Emergency Stop



Compact Design



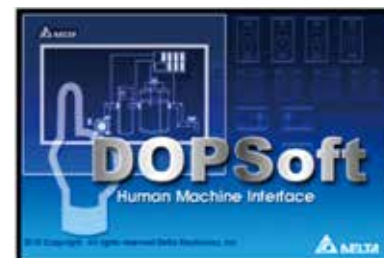
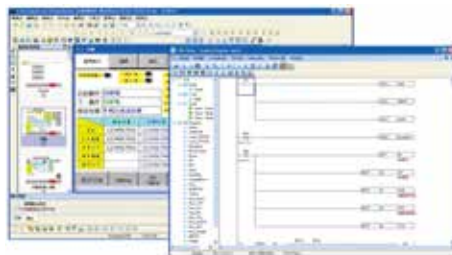
DMCNET



SD Card

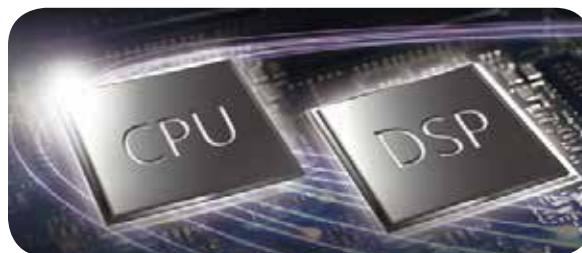


DOPSoft for HMI Screen Editing and PLC Programming



Powerful Dual Processors

Equipped with two high-speed CPUs: one for HMI operation, and the other as a Digital Signal Processor (DSP). The DSP serves as a motion processor for sequence control, which guarantees execution efficiency and system performance. The DSP supports up to four major PLC programs simultaneously.



Direct Remote I/O Connection

OLD way



I/O points placed in the rear of the panel, result in complicated wiring and connection

NEW way



Direct remote I/O connection provides simple and effortless wiring. Only one communication cable is needed to complete the I/O connection.

Quick PLC Ladder Monitoring



PLC ladder programs and registers can be monitored and changed in real time on a PC to greatly reduce the verification and debug time via Ethernet.

Ethernet



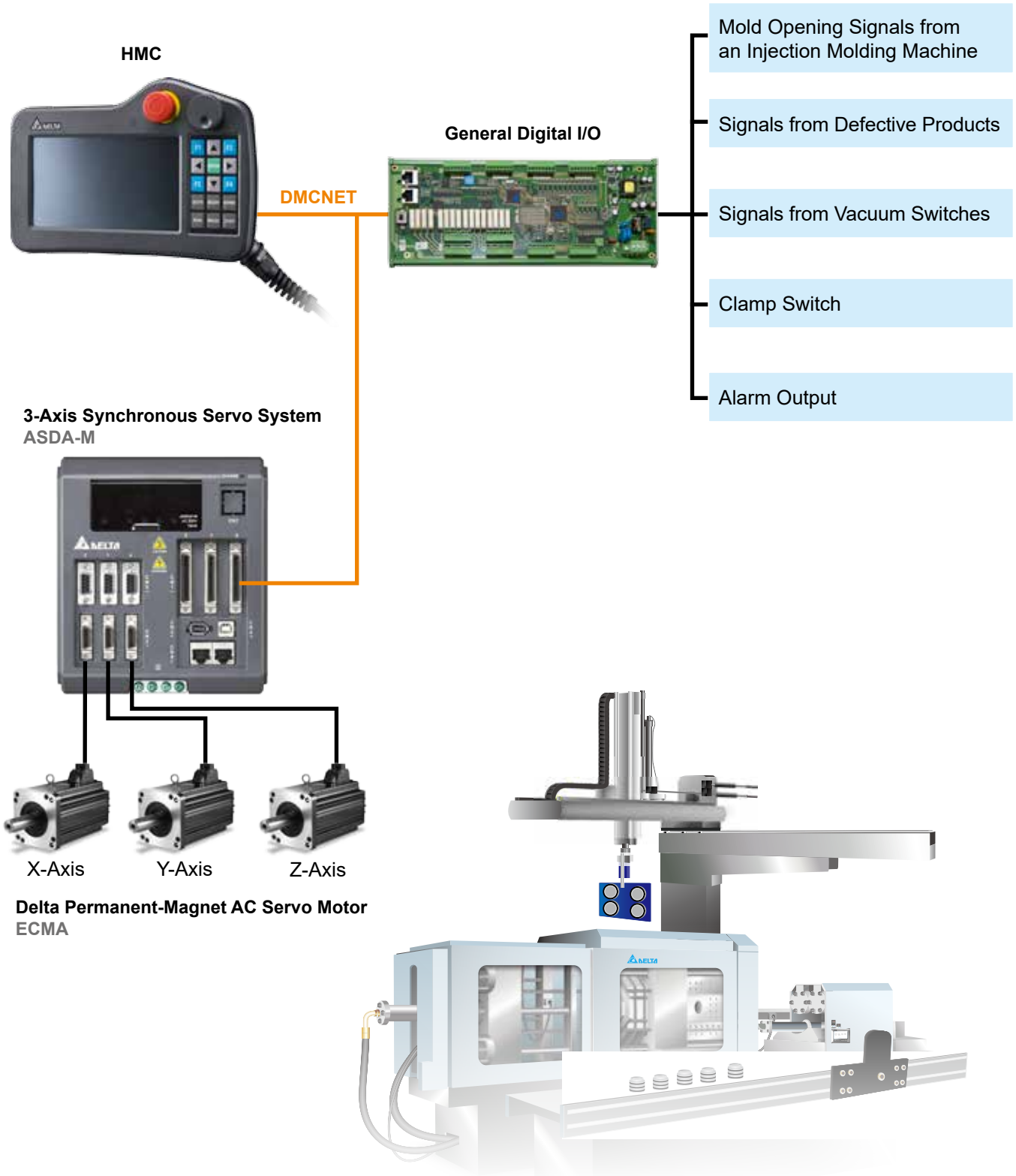
Built-in PLC ladder monitor devices allow users to display programs in real time and confirm machine operations without using a PC.

Built-in Motion Commands

Direct servo parameter setup and quick motion command editing, no additional communication commands are required.

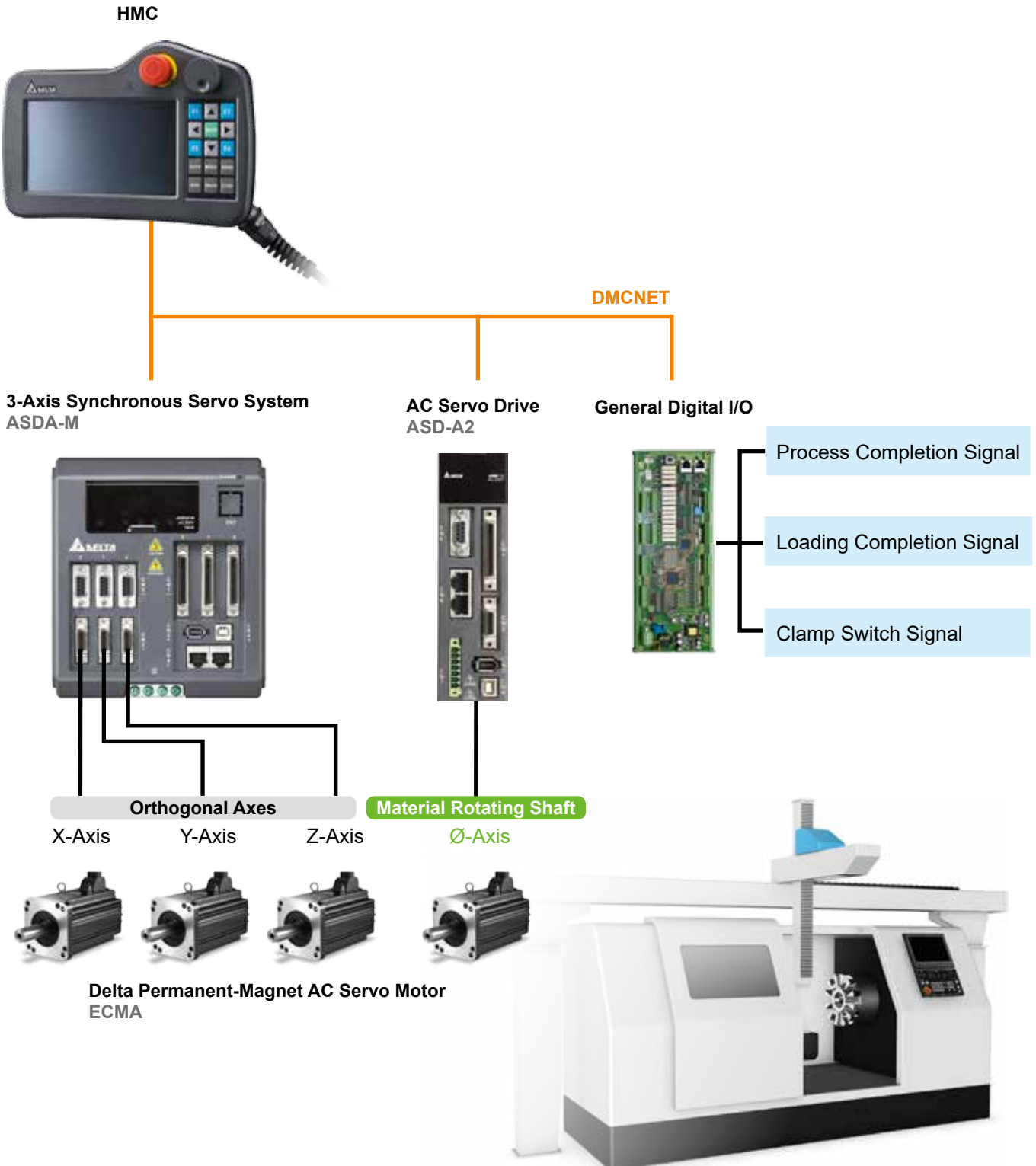
Field Applications

Control of a Pick-and-Place Robot for an Injection Molding Machine



New

Control of a Material Loading/Unloading Robot for Machine Tools



New

Application Cases for Quick Implementation

- ▶ System parameter settings: including gear ratio, acceleration / deceleration time and speed

Serve Setting | 1 | DEMO | 2015/10/19 14:31:34

	Gear ratio (Mot.)	Gear ratio (Don.)	S-curve	Acc. time (ms)	Dec. time (ms)	Homing acc./dec.	Max speed (mm/s)	RPM	Dir.
X1 axis	128	1	125	10	10	600	333.333	2000	C.W.
Y1 axis	128	1	50	10	10	400	333.333	2000	C.W.
Z1 axis	128	1	240	10	10	400	333.333	2000	C.C.W.

X1 axis: 0.000 | Y1 axis: 0.000 | Z1 axis: 0.000

Operate Manual Teach I/O System Alarm Main

Motion Setting | 1 | DEMO | 2015/10/19 14:28:34

	Homing Offset (mm)	Homing Mode	Homing High speed (mm/s)	Homing Low speed (mm/s)	AutoRun speed (mm/s)	Jog speed	Torque protection (%)
X1 axis	0.000	20	50.000	20.000	121.522	100.000	1.0
Y1 axis	0.000	25	50.000	50.000	150.000	100.000	10.0
Z1 axis	0.000	25	50.000	50.000	150.000	100.000	20.0

X1 axis: -0.001 | Y1 axis: 0.000 | Z1 axis: 0.000

Operate Manual Teach I/O System Alarm Main

- ▶ Intuitive teaching interface

TEACH | 1 | DEMO | 2015/10/19 14:33:59

No. (Main Sys.) Instructions

- 1 Goto T.P., speed:5% , P1
- 2 Goto T.P., speed:5% , P2
- 3 Output[Y1]ON
- 4 Goto T.P., speed:5% , P1 , delay:1.0 Sec

Speed: 50 %
Delay before: 0.0 sec
Teach Point: 1

Cut / Delete Copy Insert Change
Clear All Paste Add Save

X1 axis: 0.000 | Y1 axis: 0.001 | Z1 axis: 0.001

Operate Manual Teach I/O System Alarm Main

- ▶ Positioning setting

Main system Teach Point coordinate

Comment	P	#X1 axis	#Y1 axis	#Z1 axis
Pos 1	1	100.000	0.000	0.000
Pos 2	2	0.000	100.000	0.000
Pos 3	3	0.000	0.000	0.000
Pos 4	4	0.000	0.000	0.000
Pos 5	5	0.000	0.000	0.000
Pos 6	6	0.000	0.000	0.000
Pos 7	7	0.000	0.000	0.000
Pos 8	8	0.000	0.000	0.000

Select T. Point: 1 | Write to Point | Read from Point

X1 axis: 0.000 | Y1 axis: 100.000 | Z1 axis: 0.000

Manual

- ▶ Operation program management

PROGRAM MANAGE | 1 | DEMO | 2015/10/19 14:33:17

No.	Program name	Modified time
1	DEMO	2015/10/19 10:52:48
2		
3	N.	2015/10/19 9:28:2
4		
5		
6		
7	3D	2015/10/19 9:26:20
8	EDIT-TEST-2	2015/10/19 9:26:8
9	EDIT-TEST	2015/10/19 9:29:34
10	LD-UL-A	2015/10/29 11:0:13

Select Program: 1

Edit selected program
Show All
Edit Template

X1 axis: -0.001 | Y1 axis: 0.001 | Z1 axis: 0.001

Operate Manual Teach I/O System Alarm Main

- ▶ Operation information

AUTO | Running Setting | 1 | DEMO | 2015/10/19 15:17:15

No. T. Points (Main Sys.) Instructions

- 1 Goto T.P., speed:5% , P1
- 2 Goto T.P., speed:5% , P2
- 3 Output[Y1]ON
- 4 Goto T.P., speed:5% , P1 , delay:1.0 Sec

Speed: 50 %
High Speed | Low Speed

Running Information

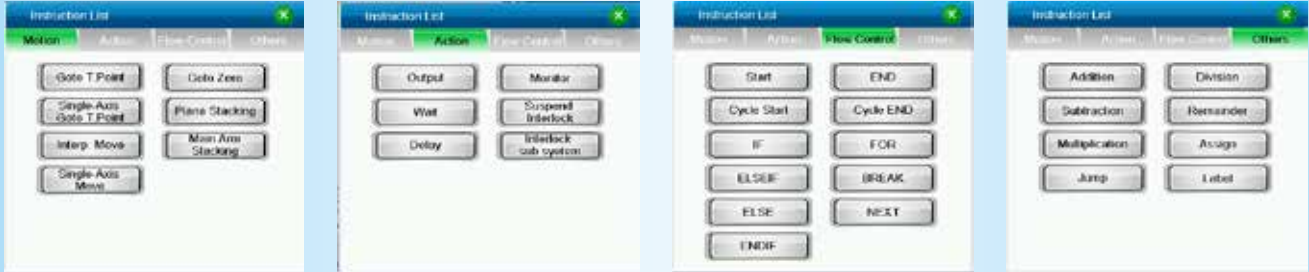
Planned cycles: 0
Remainder: 0
Cycle time: 0.00 Sec

Zero Return | Run | Pause | Stop | CycleStop | Magn: 1 | Hand Wheel

X1 axis: 59.825 | Y1 axis: 0.000 | Z1 axis: 0.000

Operate Manual Teach I/O System Alarm Main

► Abundant operating instructions



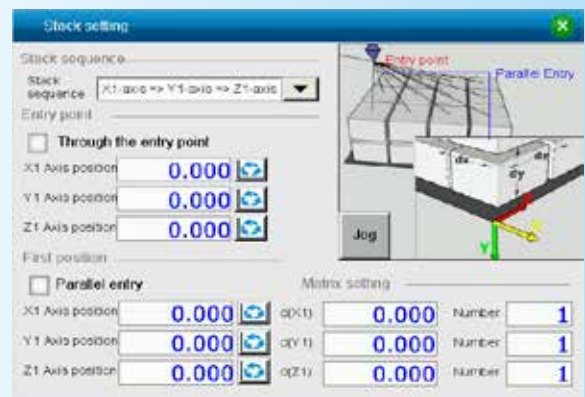
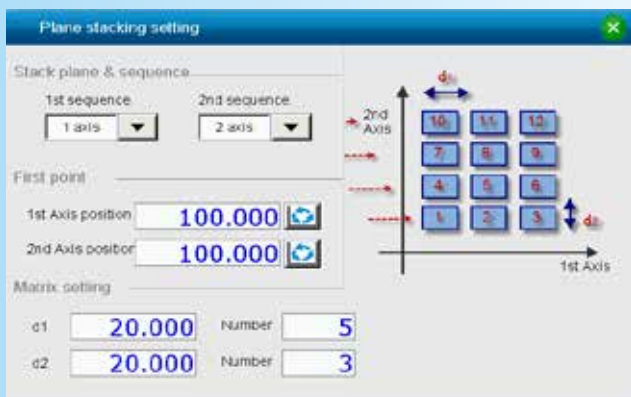
► Jog function



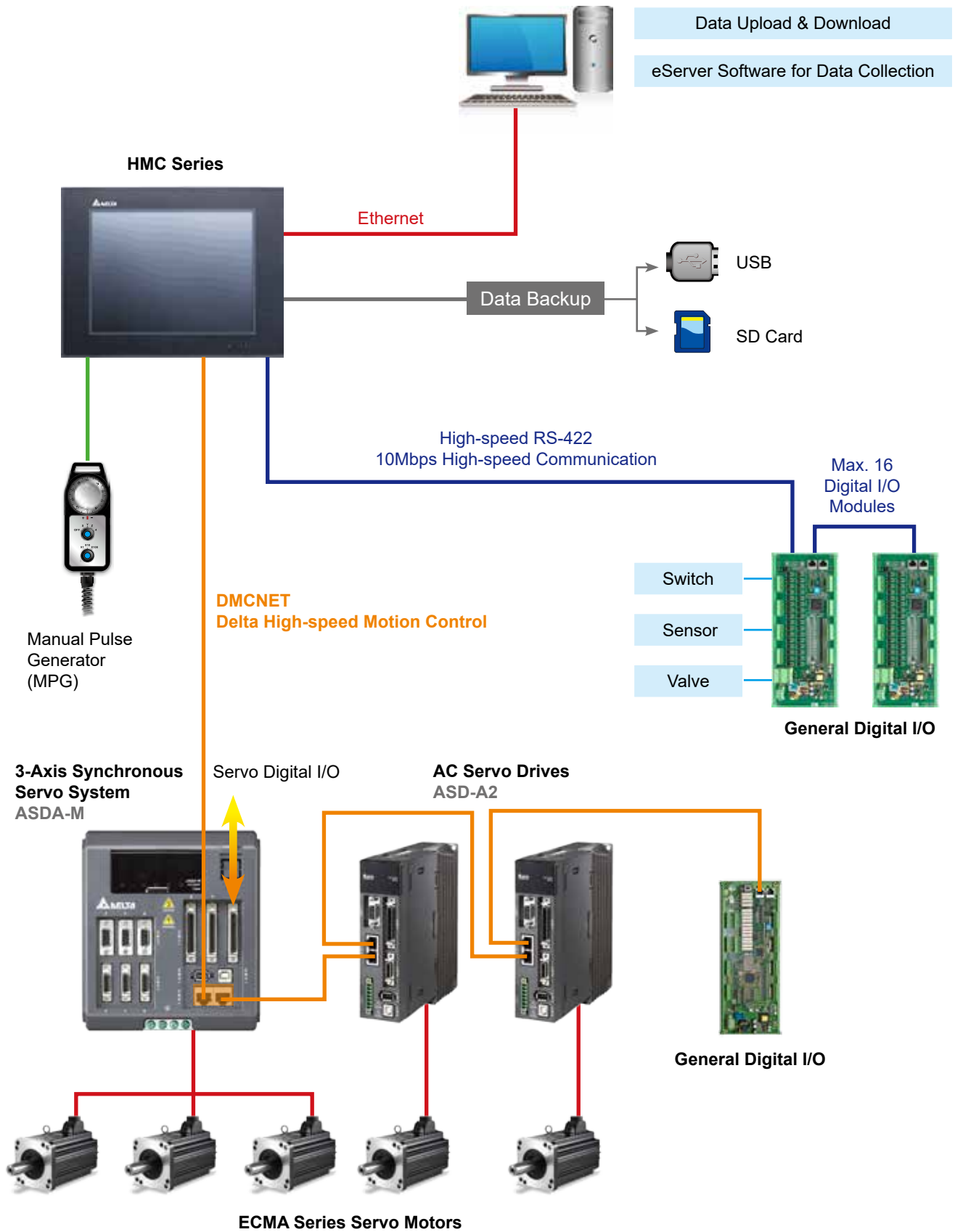
► Security zone setting



► Various stacking instructions



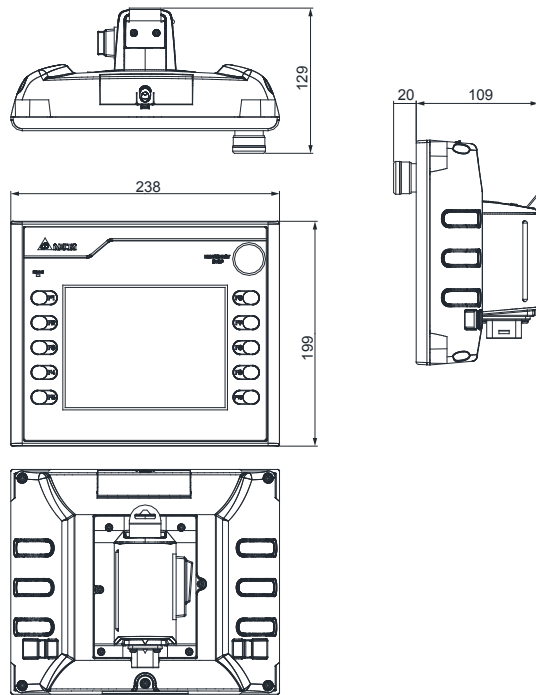
Complete Total Solution



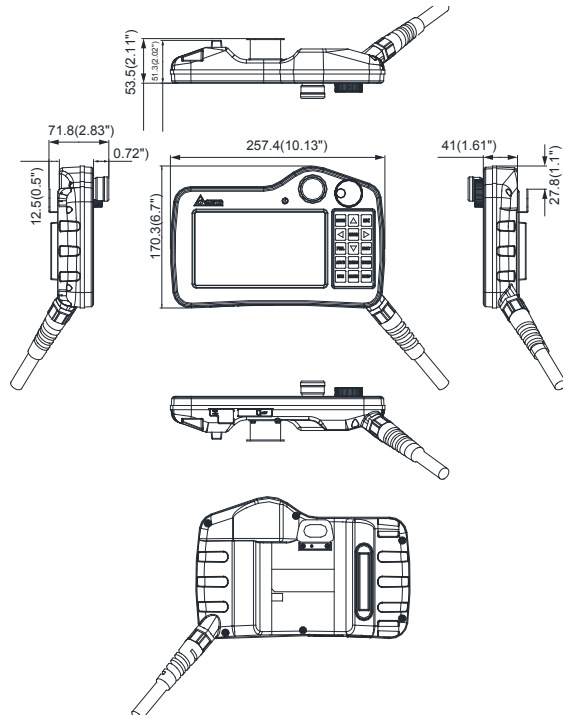


Dimensions Dimensions are in mm (in.)

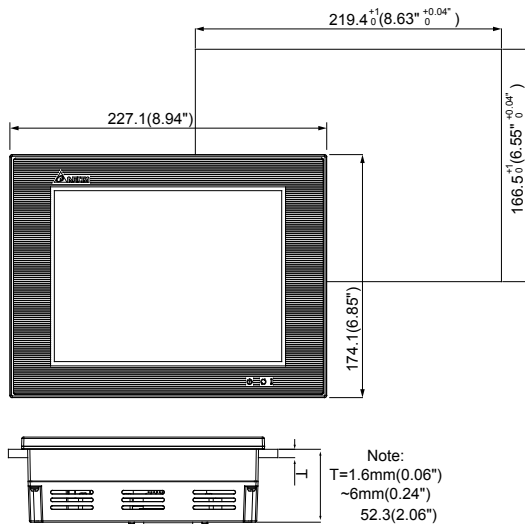
Model Name HMC07-N5xx Series



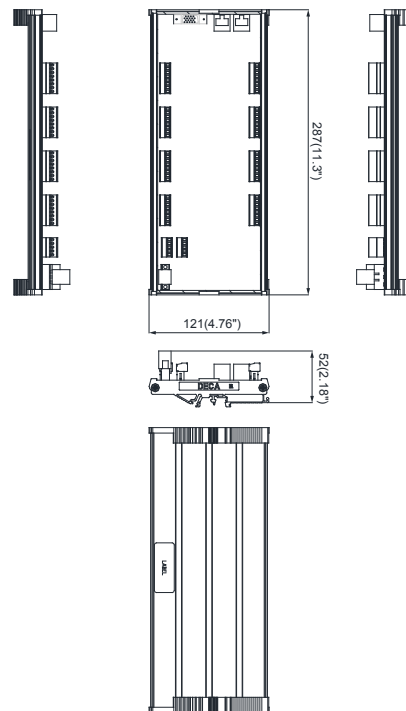
New
Model Name HMC07-N4xx Series



Model Name HMC08-N5xx Series



Model Name Remote I/O Module



Specifications

MODEL		New HMC07-N411H5C5	New HMC07-N411H5CA	HMC07-N510H52	HMC07-N511H52	HMC08-N500S52
LCD Module	Display Type	7" TFT LCD		7" TFT LCD		8 TFT LCD
	Colors	65536				
	Resolution (pixels)	800 x 480		800 x 600		
	Backlight	LED Backlight				
	Backlight Luminance (cd/m ²)	450		200		250
	Backlight Lift (Hr) ^(Note 1)	20,000				
Axes of Control		Max. 12 Axes	Max. 12 Axes	Max. 4 Axes	Max. 12 Axes	Max. 12 Axes
CPU	HMI	400MHz				
	Controller	32-bits DSP				
Flash ROM (Bytes)		128MB				
RAM (Bytes)		64MB				
Backup Memory (Bytes)		1MB				
Buzzer		Multi-Tone Frequency (2K~4kHz) /80dB				
Sound Effect Output		N/A		N/A		Stereo output
USB		1 USB Client Ver 2.0		1 USB Host ^(Note 4) Ver 1.1/1 USB Client Ver 2.0		
SD		SD card (support SDHC)				
Serial COM Port	COM1	RS-485 ^(Note 2)		RS-232/RS-422/RS-485 ^(Note 2)		RS-232
	COM2	N/A		N/A		RS-232/RS-422/RS-485 ^(Note 2)
	COM3	N/A		N/A		RS-232/RS-422/RS-485 ^(Note 2)
Ethernet		N/A		1 Port		
Motion Control BUS		DMCNET				
Function Key		15		10		N/A
Cable Length		5m	10m	N/A (Operational)		N/A
Emergency Stop Switch		<ul style="list-style-type: none"> • B-contact (normally closed): 2 • Rated voltage: 24V_{DC} • Maximum rated current: 500mA • Minimum allowable load: 5V_{DC} / 1mA • IEC60947-5-1, EN60947-5-1, IEC60947-5-5, EN60947-5-5, UL 508, CSA C22.2 No.14, GB 14085.5 		<ul style="list-style-type: none"> • A-contact (normally open): 1 • B-contact (normally closed): 1 • Rated voltage: 30V_{DC} • Maximum rated current: 500mA • Minimum allowable load: 5V_{DC} / 1mA • IEC60947-5-1, EN60947-5-1, IEC60947-5-5, EN60947-5-5, UL 508, CSA C22.2 No.14 		N/A
3-Position Operation Switch		Only for internal register, no output signal		<ul style="list-style-type: none"> • A-contact (normally open): 1 • Rate voltage: 30V_{DC} • Maximum rated current: 500mA • Minimum allowable load: 3V_{DC} / 5mA • EN/IEC60497-5-8, IEC60947-5-1, EN60947-5-1, JIS C8201-5-1, UL508, CSA C22.2 NO,14, ISO12100-1 \ -2/EN12100-1 \ -2, IEC60204-1/EN60204-1, ISO11161/prEN11161, ISO10218/EN775, ANSI/RIA R15.06, ANSI B11.19 		N/A
Manual Pulse Generator (MPG)		Resolution: 50(P/R) Only for internal register, no output signal		N/A		N/A
Perpetual Calendar		Built-in				
Cooling Method		Only for internal register, no output signal				
Safety Approval		CE		CE/UL		CE/UL
Protection Rating		IP55		IP65		IP65
Voltage Endurance ^(Note3)		+24V _{DC} (-15% ~ +15%) ^(Note3)				
Waterproof Degree		24V _{DC} terminal and FG terminal: 500V _{AC} / min				

MODEL	New HMC07-N411H5C5	New HMC07-N411H5CA	HMC07-N510H52	HMC07-N511H52	HMC08-N500S52
Power Consumption ^(Note 5)	6W		8W		11W
Backup Battery	3V lithium CR2450 × 1		3V lithium CR2032 × 1		
Backup Battery Life	3 years or more at 25°C, may vary due to temperature and usage condition				
Operation Temperature	0°C~40°C		0°C~50°C		
Storage Temperature	-20°C~+60°C, 10%~90% RH				
Operation Environment	10%~90% RH【0~40°C】, 10%~55% RH【41~50°C】, Pollution Degree 2				
Vibration	IEC61131-2 compliant 5Hz~8.3Hz 3.5mm, 8.3Hz~150Hz 1G				
Shock	IEC60068-2-27 compliant 11ms, 15G Peak, X, Y, Z direction for 6 times				
Dimensions (W x H x D mm)	257.4x170.3x71.8 (Emergency stop button and hook included)		237.9x199x129 (Emergency stop button and hook included)		227.1x174.1x61
Panel Cutout (W x H x D mm)	N/A		N/A		219.4x166.5
Weight	750g (wire excluded)		Approx.1500g		Approx.1314g

Note:

- 1)The half-life of the backlight is defined as the original luminance being reduced by 50% when the maximum driving current is supplied to the HMI.
- 2) The isolated power circuit can withstand a 1500V for 1 minute.
- 3) Adopting isolated power supplies is suggested.
- 4) USB host port provides up to 5V/500mA of power.
- 5) Some models are in the process of applying for UL and KCC certification. For more information, please consult our distributors.
- 6) The value of the power consumption indicates the electrical power consumed by HMI with no peripheral devices connected. To ensure normal operation, it is recommended using a power supply with a capacity 1.5~2 times the value of the power consumption.
- 7) The content of this catalogue may be revised without prior notice. Please consult our distributors or download the most updated version at <http://www.deltaww.com/>.

Electrical Specifications of Remote I/O Modules

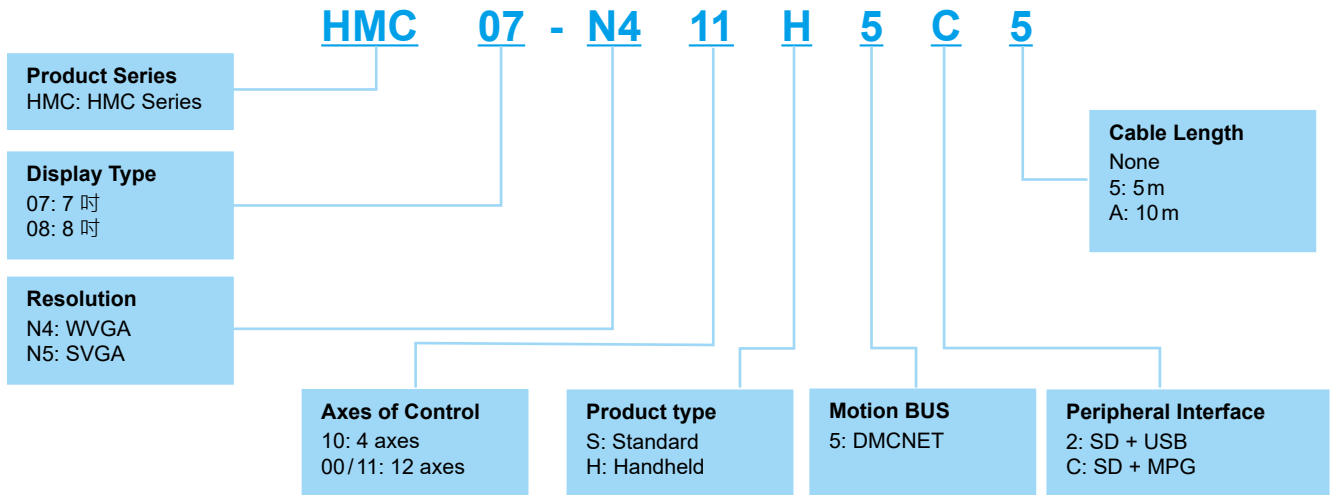
Items/Model Name	Power Supply	Input Unit		Output Unit	
		Points	Type	Points	Type
HM-RIO3232T12	24 V _{DC}	32	NPN (Sink)	32	Transistor
Input Point Electrical Specifications			Output Point Electrical Specifications		
Input Impedance		4.7 KΩ		Max. Switching Frequency	
Max. Switching Frequency		100 kHz		500 kHz	
Active Level	Off → On	> 16.5 V _{DC}		Response Time (Relay)	On → Off
	On → Off	< 5 V _{DC}			On → Off
Response Time	Off → On	< 3 μs		-	
	On → Off	< 40 μs		-	

Items/Model Name	Power Supply	Input Unit		Output Unit	
		Points	Type	Points	Type
HMC-RIO3232RT5	24 V _{DC}	32	NPN (Sink)/ PNP (Source)	16 Relay/16 TR	Relay/Transistor
Input Point Electrical Specifications			Output Point Electrical Specifications		
Input Impedance		4.7 KΩ		Max. Switching Frequency	
Max. Switching Frequency		10 kHz		1Hz (Relay) 8kHz (TR)	
Active Level	Off → On	> 16.5 V _{DC}		Response Time (Relay)	Resistive Load
	On → Off	< 5 V _{DC}			Off → On
-		-		On → Off	10 ms
-		-		Response Time (TR)	Off → On
-		-			On → Off
-		-		115 μs	

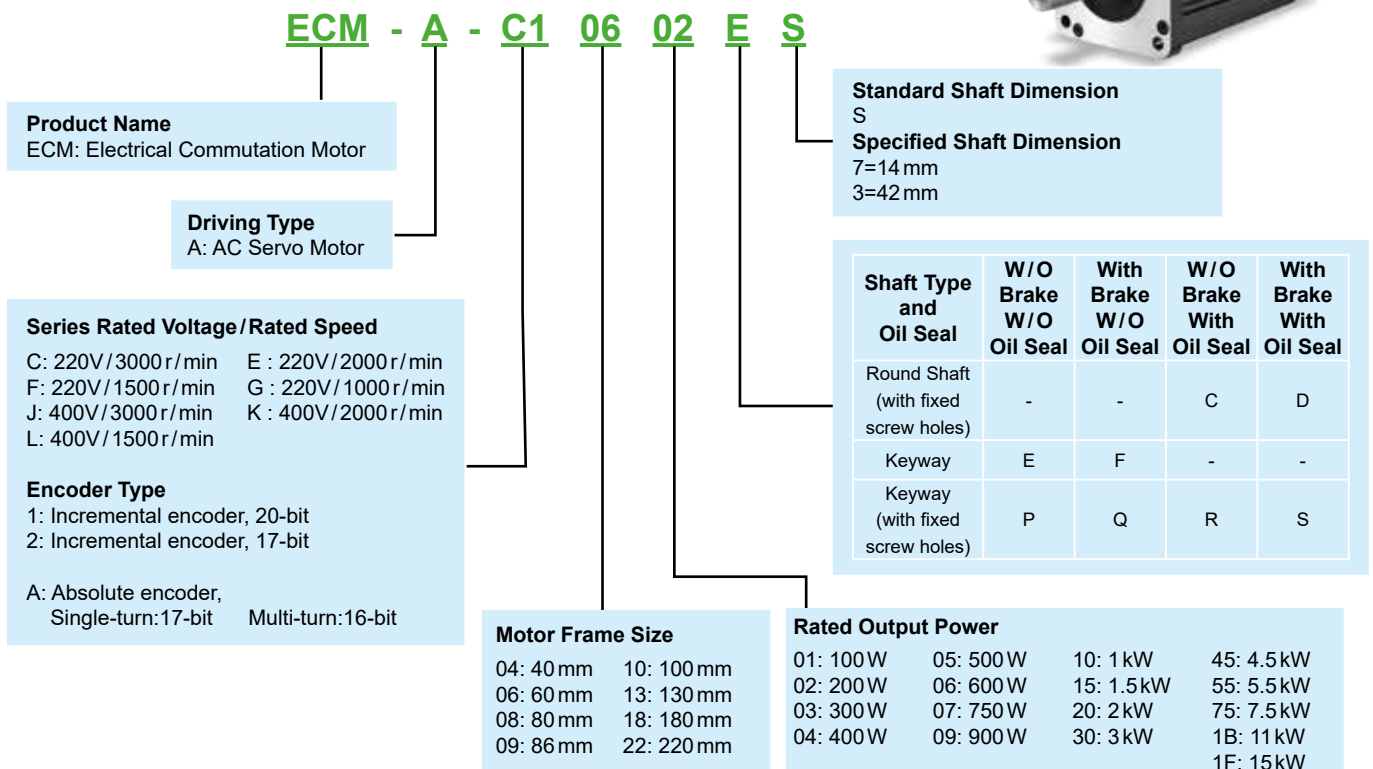
Model Introduction

New

HMC07 Series



Servo Motors ECMA Series



Servo Drives ASDA-M Series



ASD - M - 07 21 - F

Product Name: AC Servo Drive

Series: M

F: DMCNET

Input Voltage and Phase
21: 220V 1-phase
23: 220V 3-phase

Rated Output Power
07: 750W
15: 1.5kW

Servo Drives ASDA-A2 Series



ASD - A2 - 04 21 - F

Product Name: AC Servo Drive

Series: A2

F: DMCNET

Input Voltage and Phase
21: 220V 1-phase/3-phase
23: 220V 3-phase
43: 400V 3-phase

Rated Output Power
01: 100 W 20: 2.0 kW
02: 200 W 30: 3.0 kW
04: 400 W 45: 4.5 kW
07: 750 W 55: 5.5 kW
10: 1.0 kW 75: 7.5 kW
15: 1.5 kW 1B: 11 kW
 1F: 15 kW

Optional Accessories

Model Name	Descriptions
HMC-CA3205C0	Handheld types HMC07-N5xx Series connection cable (5m, 32-pin)
HMC-CA3210C0	Handheld types HMC07-N5xx Series connection cable (10m, 32-pin)
HMC-CA1205C0	Handheld types HMC07-N5xx Series connection cable (5m, 12-pin)
HMC-CA1210C0	Handheld types HMC07-N5xx Series connection cable (10m, 32-pin)
NC-CAB-DMC003	DMCNET/Remote I/O connection cable (0.3m)
NC-CAB-DMC015	DMCNET/Remote I/O connection cable (1.5m)
NC-CAB-DMC050	DMCNET/Remote I/O connection cable (5m)
NC-CAB-DMC100	DMCNET/Remote I/O connection cable (10m)

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