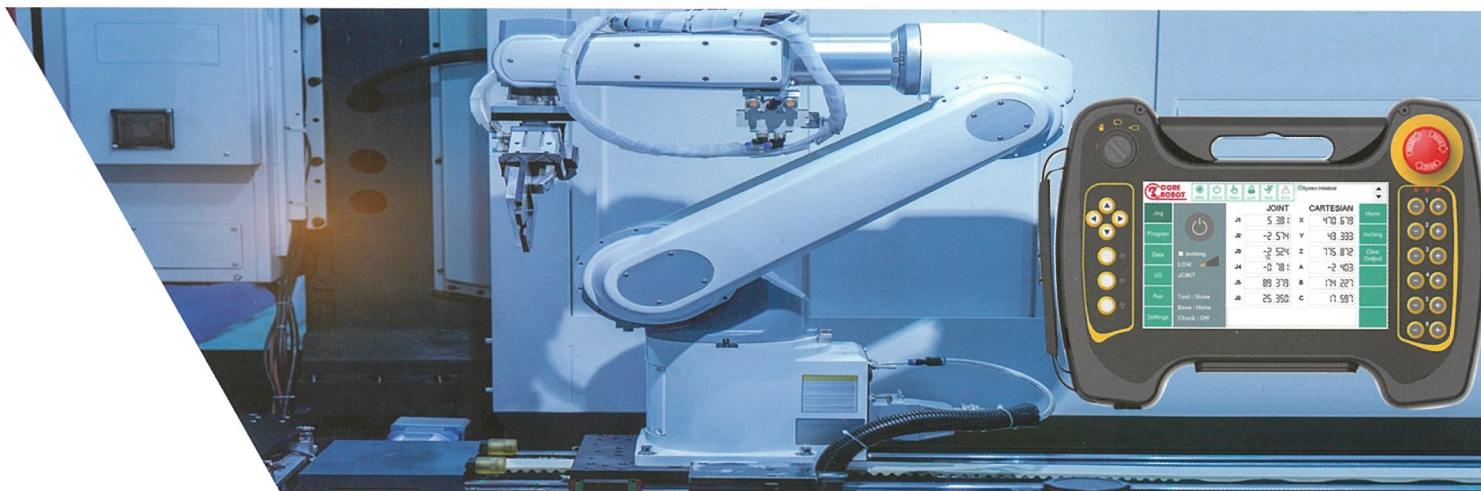




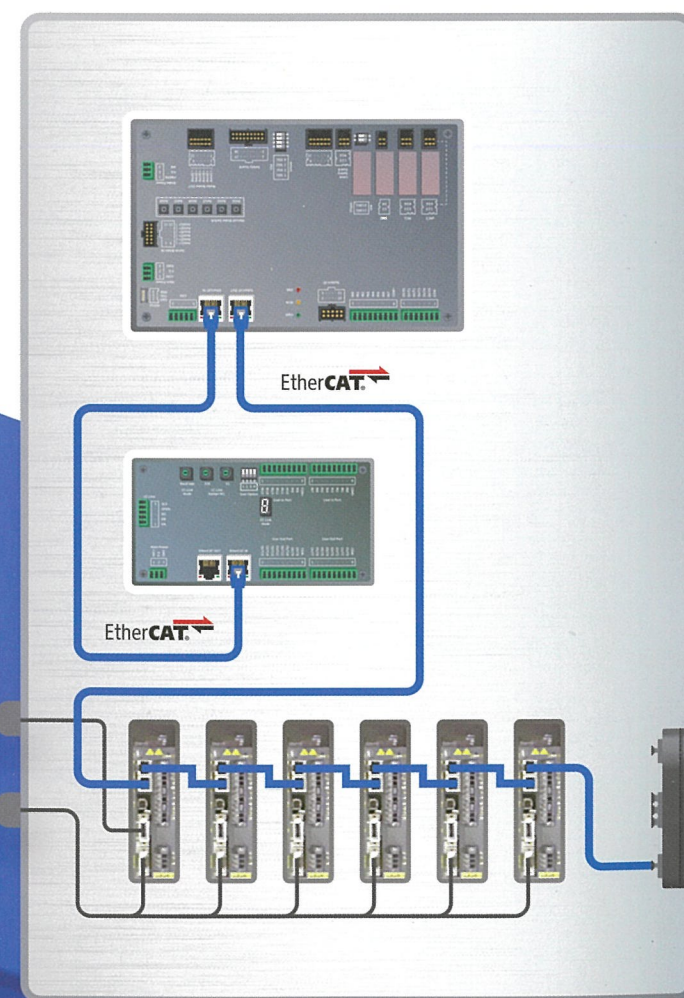
# Global Leader in Automation

(T/P, Motion Controller, Safety Controller)





# Robots Make People's Live Better



다인큐브는 로봇산업의 탁월한 가치 창조를 기업 이념으로 세계 최초 Teach Pendant 일체형 로봇 모션 제어기와 안전을 관리하는 로봇과 장비용 Safety PLC 그리고 Teach Pendant를 고객에게 공급하고 있습니다.

로봇모션 제어기는 기존 틀에서 완전히 벗어나 다양한 로봇을 몇 단계 설정만으로 동작시키고, 풍부한 로봇 언어를 사용하여 편리하게 교시하고, 적합한 Servo Driver 및 I/O를 연결하여 로봇 또는 자동화 시스템을 구축할 수 있습니다.

We have the company philosophy that is to create superior value in the robot industry by providing the world's first all in one type Teach Pendant & Robot Motion Controller and safety controller for robot and automation equipment.

Our Robot Motion Controller is completely out of the existing concept of controller, it may operate various types of robots with only a few steps of sample setting, easy teaching by using a rich robot language, operate robots and automation equipment by just connecting servo driver and I/O which users want to use.





# Teach pendant Line-up

## 3.5" Teach pendant (DTP3)

- Low cost, light, compact size (Under 300g weight)
- Cost-effective price than more in-house Teach pendant
- Easy & simple GUI implementation not developing extra T/P programs but using serial user interface
- IDE (Integrated Development Environment) is provided by STMicro STM32



## 7" Teach pendant (DTP7)

- Teach pendant for industrial robots based on industrial safety regulations
- Mobile (Handy) touch panel type & an embedded type which supports various operating systems
- Designed ergonomically
- Used for various types of robot and automation equipment
- 1.5m drop test passed / IP54
- CE & KC certifications



## 10.1" Teach pendant (DTP10)

- OSD supported (Brightness, Contrast, Sharpness)
- Automatic resolution setting
- Teach pendant for industrial robots based on industrial safety regulations
- Mobile (Handy) touch panel type & an embedded type which supports various operating systems
- 1.2m drop test passed / IP54
- CE & KC certifications



# Robot controller

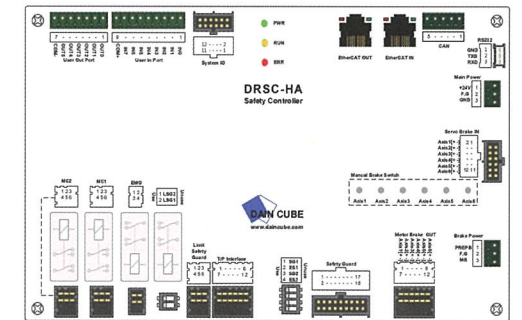
## Robot motion controller (DTP7-coreCon)

- Built-in Teach pendant
- Supported with EtherCAT Master
- Supported various vendors of EtherCAT slave
- Easy to change the setting and the use the same UI for various robot type (Cartesian, SCARA, Delta, Vertical multi-axis, Take-out, Gantry and WTR, etc.)
- Supports strong and easy robot languages (Without programming like C/C++)



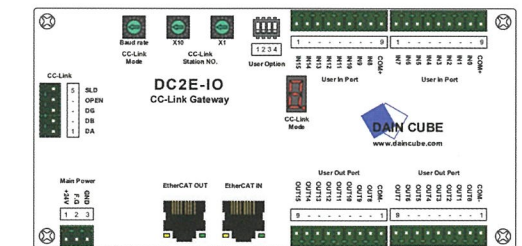
## Robot safety controller (DRSC)

- Safety controller for robot and automation equipment (Satisfied with ISO 13849-1 Cat.4 & ISO 10218-1)
- The connecting cables are perfectly organized through "safety logic" (Developing extra program is not necessary)
- The safety state is transferred to the controller via EtherCAT
- In case of emergency stop, it can be stopped at maximum decelerating speed
- CE & KC certifications



## CC-Link gateway (DC2E-IO)

- Communicated with main PLC (Mitsubishi) controller
- Supported CC-Link (Slave) to EtherCAT (Slave) converter
- Supported remote I/O by CC-Link and EtherCAT
- Network separation by internal data buffer safely
- CE & KC certifications
- CC-Link conformance test passed





# 7" Teach pendant (DTP7)

## DTP7-E (Embedded, P/W/L)

- Supports various operating systems (Windows 7 / 10, Windows Embedded Standard 7, Windows CE, Linux, Ubuntu)
- DTP7-P: IBM PC compatible type for industrial notebook  
Supports the development of related programs (MFC, LabVIEW, C#)
- DTP7-W: Windows CE type  
Fast boot time (Within 10 seconds -it is 30% faster than standard Window CE booting time)
- DTP7-L: Embedded Linux type  
Visualizing application GUI by using Qt



## DTP7-D (Display)

- Mobile (Handy) touch panel type
- Sends (Transmits) GUI of controller PC to LCD screen by VGA
- Operates teaching robots & equipment through the touch screen and buttons
- All in one with LCD, keyboard and mouse
- Unlike other companies which use existing graphic panel to be developed additional & UI, DTP7 simply extends and clones the screen of PC-type controllers



## The specification

Model type	DTP7			
	DTP7-P	DTP7-W	DTP7-L	DTP7-D
	TFT 7" 800x480, 16.2M Color, LED backlight / 4-Wire analog-resistive			
	3 Color LED 6EA / Jog(+,-)12EA, Function 3EA, Direction 4EA jog key interface			
	Emergency stop, 3-Level enabling, Select			
	DC 20 ~ 26 V			
	Operating temperature: 0°C to +45°C, Storage temperature: -20 °C to +70 °C, Humidity max 85% (Non-condensing)			
	Size: 195 x 270 x 72mm, Weight: Max. 1000g (Without cable and emergency switch cap)			
Model type	DTP7-E type			
	DTP7-P	DTP7-W	DTP7-L	
Processor	Intel ® Atom TME3815, 1.46GHz	ARM11 -667MHz	ARM Cortex-A8 800MHz	
Memory	4GB DDR3L memory, 1066MHz	DDR1 256MB	DDR2 512MB	
Internal storage	Micro SSD 64GB	NAND SLC 256MB	NAND SLC 256MB, F-RAM 128KB(Nonvolatile memory)	
OS	Windows7 / 10, Ubuntu 14.04 Windows Embedded standards 7	Windows CE 6.0	Embedded Linux 2.6.35	
Communication	Ethernet 2 port, RS-485 (Option)			
External storage	SD/MMC, USB Host			
RTC	Lithium 3 years			
Model type	DTP7- D type			
	DTP7-D			
Analog video input	VGA 640 x 480 (60Hz), SVGA 800 x 600 (60Hz)			
Communication	Touch, Key interface: RS-232			

# 10.1" Teach pendant (DTP10)

## DTP10-E (Embedded, P/W/L)

- Supports various operating systems (Windows 7 / 10, Windows Embedded Standard 7, Windows CE, Linux, Ubuntu)
- DTP10-P: IBM PC compatible type for industrial notebook  
Supports the development of related programs (MFC, LabVIEW, C#)
- DTP10-W: Windows CE type  
Fast boot time (Within 10 seconds - it is 30% faster than standard Window CE booting time)
- DTP10-L: Embedded Linux type  
Visualizing application GUI by using Qt



## DTP10-D (Display)

- Mobile (Handy) touch panel type
- Sends (Transmits) GUI of controller PC to LCD screen by VGA
- Operates teaching robots & equipment through the touch screen and buttons.
- All in one with LCD, keyboard and mouse
- Unlike other companies which use existing graphic panel to be developed additional & UI, DTP10 simply extends and clones the screen of PC-type controllers



## The specification

Model type	DTP10			
	DTP10-P	DTP10-W	DTP10-L	DTP10-D
	TFT 10.1" 1280x800, 16.2M Color, LED backlight / 4-Wire Analog-resistive			
	Bi-color LED 3EA / Jog(+,-) 16EA, Function 2EA			
	Emergency, 3-Level enabling, Select, Motor start, Motor stop			
	DC +24V ±5%			
	Operating temperature: 0°C to +45°C, Storage temperature: -20 °C to +70 °C, Humidity max 85% (Non-condensing)			
	Size: 270 x 305 x 45mm, Weight: About. 1500g (Without cable and emergency switch cap)			
Model type	DTP10-E type			
	DTP10-P	DTP10-W	DTP10-L	
Processor	Intel ® Atom TME3815, 1.46GHz	ARM11 -667MHz	ARM Cortex-A8 800MHz	
Memory	4GB DDR3L memory, 1066MHz	DDR1 256MB	DDR2 512MB	
Internal storage	Micro SSD 64GB	NAND SLC 256MB	NAND SLC 256MB, F-RAM 128KB(Nonvolatile memory)	
OS	Windows7 / 10, Ubuntu 14.04 Windows Embedded standards 7	Windows CE 7.0	Embedded Linux 2.6.35	
Communication	Ethernet 2 port, RS-485 (Option)			
External storage	SD/MMC, USB Host			
RTC	Lithium 8 years			
Model type	DTP10- D type			
	DTP10-D			
Video interface	Standard VGA			
Supported resolutions	1280 x 800 (60Hz, 75Hz), 1920 x 1080 (60Hz)			
OSD function	Brightness, Contrast, Color temp, H-position, V-position, OSD timer			
Interface	Touch, key interface: USB Virtual Com Port			



# 3.5" Teach pendant (DTP3)

- Low cost, light, compact size (Under 300g weight)
- Cost-effective price than more in-house Teach pendant
- Easy & simple GUI implementation not developing extra T/P programs but using serial user interface
- IDE (Integrated Development Environment) is provided by STMicro STM32

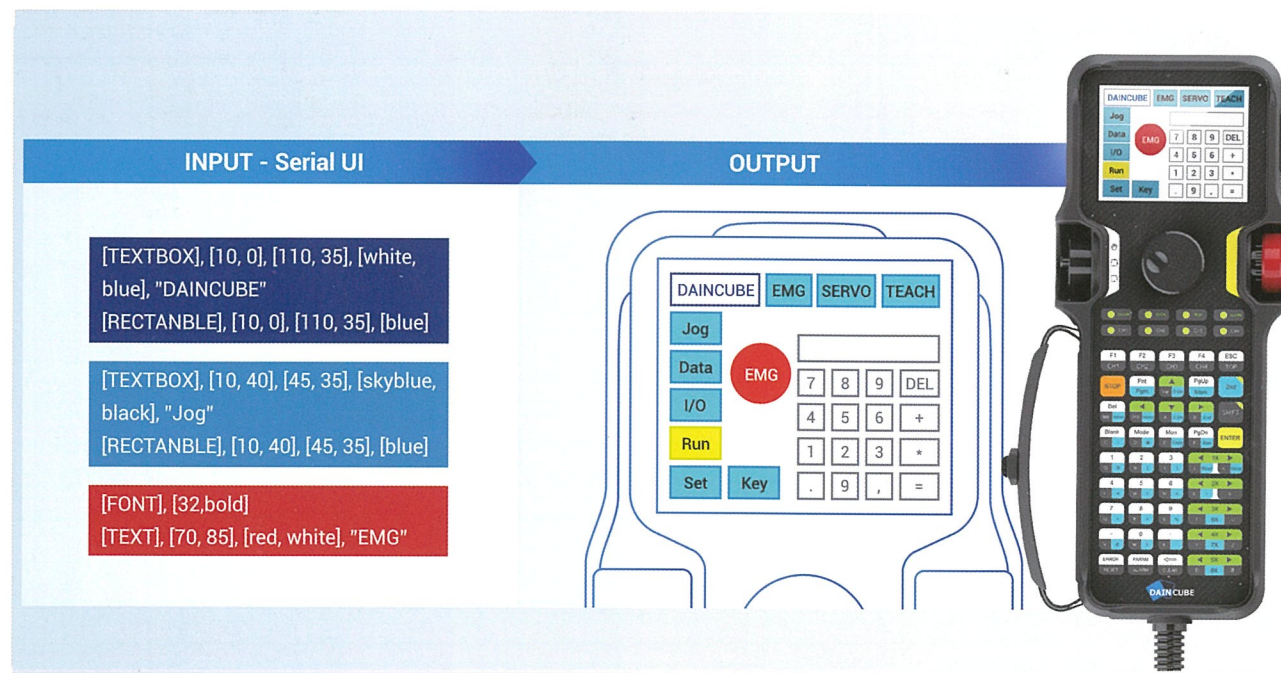


## The specification

Model type	DTP3
Processor	ARM Cortex-M4 -180MHz
Memory	Internal: SRAM 256KB, Option: SDRAM 64MB
LCD / Touch	TFT 3.5" 320x240, 16.2M Color, LED backlight / 4-Wire analog-resistive
LED / Keypad	User define: 10EA / User define: 45EA
Internal storage	Flash 1MB
External storage	USB host
OS	Non-OS
RTC	Lithium 3 years
Switch	Emergency stop, 3-Level enabling, Select, Jog dial
Communication	RS-485 1 port
Power consumption	Max. DC 24V, 250mA
Appearance	Size 90 x 270 x 45mm, Weight Max. 600g (Without cable)

## SUI (Serial User Interface) software for DTP3

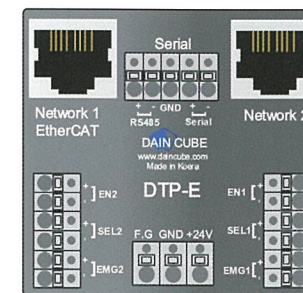
- Visualizing GUI only with controller program without developing extra programs



# Junction box (DTP-CUE-JB/CUD-JB)

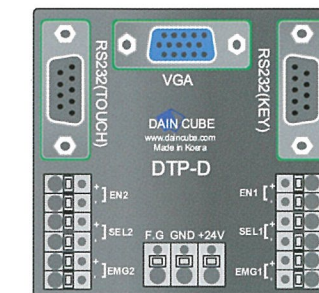
## DTP-E J/B (DTP-CUE-JB)

- Easy connection (Using standard cable)
- Robust and noise protect
- Ethernet 2 port, RS-485(option)
- Emergency, 3-Level enabling, Select

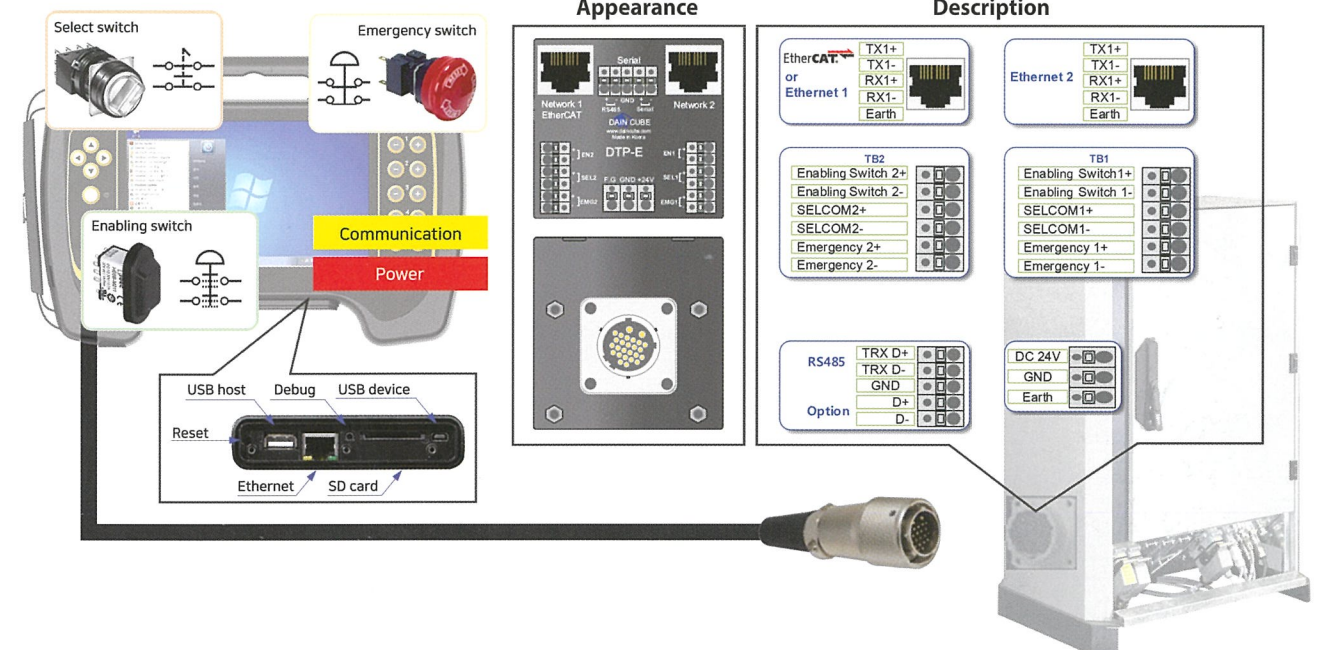


## DTP-D J/B (DTP-CUD-JB)

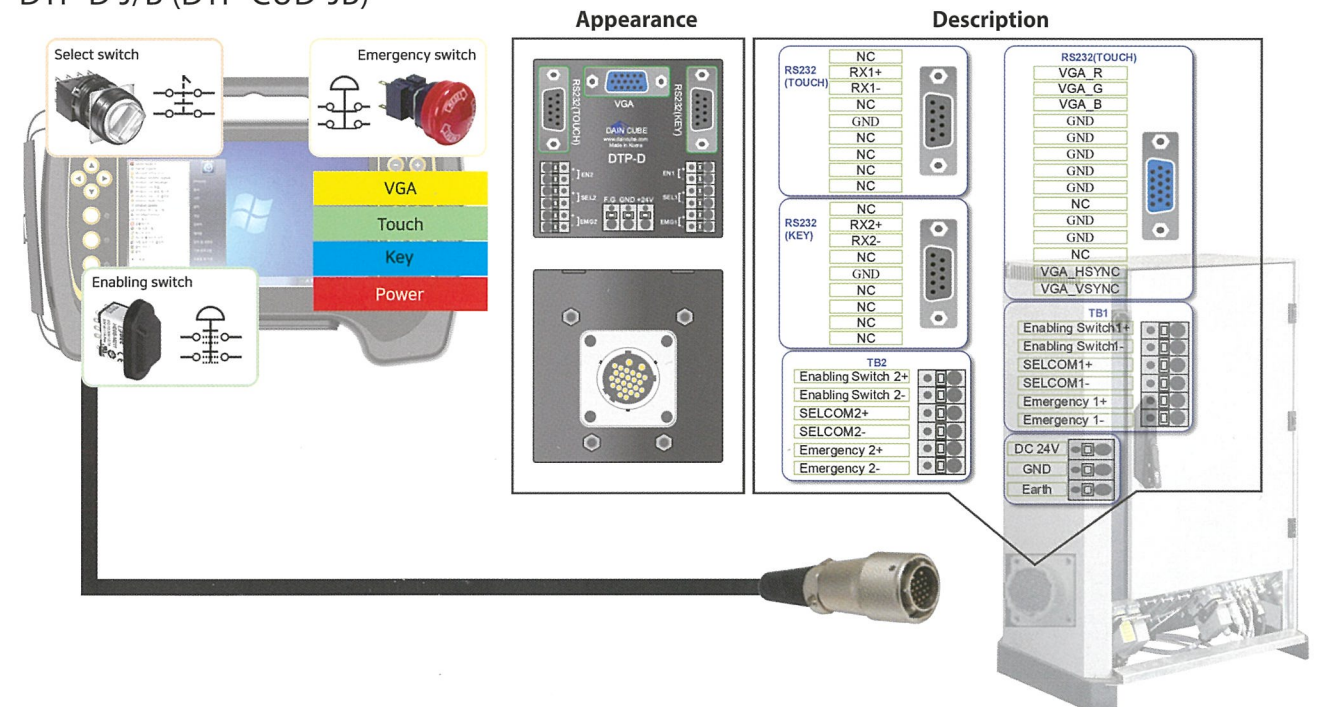
- Easy connection (Using standard cable)
- Robust and noise protect
- RS232 touch & keypad
- Standard VGA
- Emergency, 3-Level enabling, Select



## DTP-E J/B (DTP-CUE-JB)



## DTP-D J/B (DTP-CUD-JB)



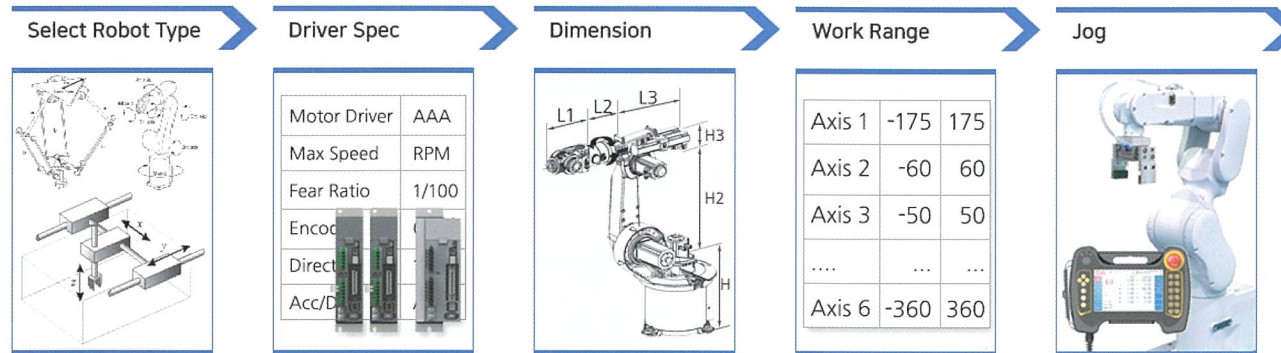


# Robot motion controller(DTP7-coreCon)

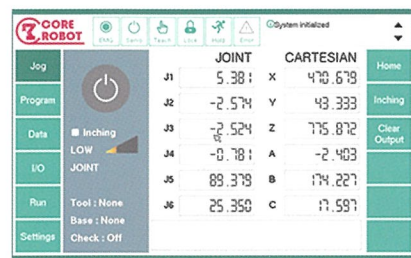
- Optimized for industrial robots and automation equipment
- Supported various venders of EtherCAT slave
- Real-time OS (Xenomai)
- Robot methodology (Cartesian, SCARA, Delta, Vertical multi-axis, Take-out, Gantry and WTR, etc.)
- Operating mode (Teach, Repeat)
- Function of system logging & EtherCAT monitoring
- Supporting rich robot languages (Motion, I/O, Function, Structure, Calculation, Variable number, Invariable number)



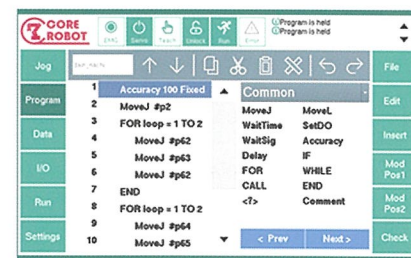
## Easy Robot setting



## Jog



## Program



## RUN

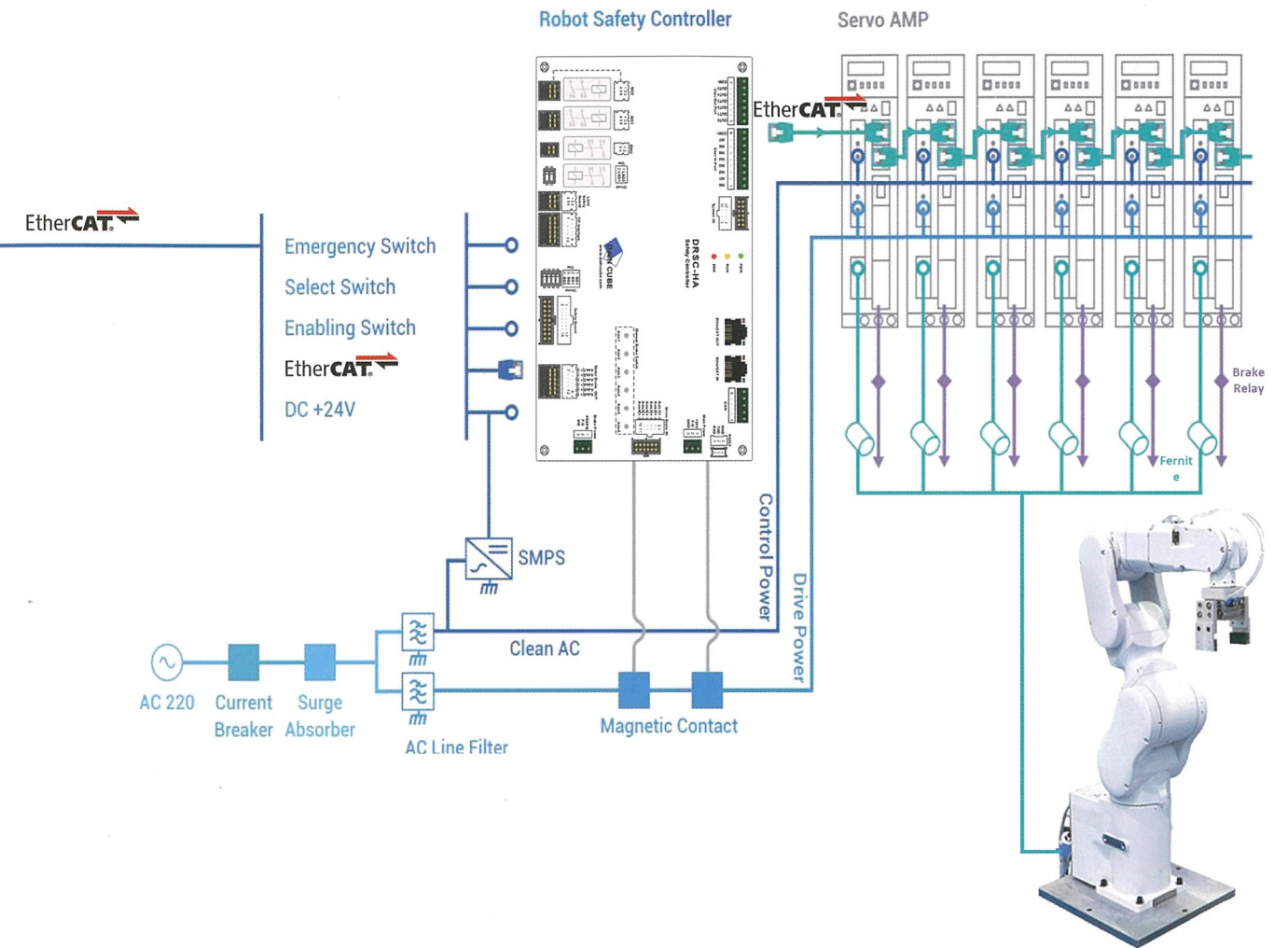


## The Hardware specification

Processor	ARM Cortex-A8 800MHz
Memory	DDR2 512MB
LCD / Touch	TFT 7" 800x480, 16.2M Color, LED backlight / 4-Wire analog-resistive
Internal storage	NAND SLC 256MB, F-RAM 128KB (Nonvolatile memory)
External storage	SD/MMC, USB Host
OS	Embedded Linux 2.6.35
LED / Keypad	3 Color LED 6EA / Jog(+,-) 12EA, Function 3EA, Direction 4EA jog key interface
RTC	Lithium 3 years
Switch	Emergency stop, 3-Level enabling, Select
Communication	EtherCAT, Ethernet, RS-485 (option)
Power supply voltage	DC 20 ~ 26V
Power communication	Max. DC 24V, 250mA
cooling method	Ambient

## The Software specification

Controller	
EtherCAT interface / Network	COE(CANopen over EtherCAT) support slave device / Ethernet 1 port, Serial 1 port
Emergency	Emergency stop switch
User interface	Color GUI with touch
Jog key interface	O
Robot kinematics	Cartesian, SCARA, Delta, Vertical articulated, Gantry, Take out, WTR
Safety Features	
Emergency Stop	Switch or chain I/O
Enable switch	Teach pendant enabling switch, Hold to run
Teach Lock	O
Robot Function & Language	
Operation mode	Teach, Repeat
Program execution	Run, Stop, Hold & Continue, Step, Repeat count, Set
Coordinate System	Joint, Base, Tool, Work
Speed settings	Percentage (%), Overriding speed (mm/s, sec)
Motion command	Joint, Linear, Circular, Interrupt motion
Multi-task	Motion task, Non-motion task
CP (Continuous Path)	Fly-by point, Accuracy range (mm)
IO command	Digital, Analog, Pulse out
Program control instruction	If, Do, While, For, Call, Switch, Goto
Variable / Array	O / O
Jog	Continuous, Pitch
Program editor	Copy, Paste, Cut, Undo, Redo, Move step, Move pos
Option Features	
Special function	Conveyor tracking, Vision, World Zone, Custom User Interface, Z-Axis compensation







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