

A-51x Series Distributed Control System

Catalogue•2014. 06



A-51x DCS

eAutomation Solution



Tose Tamin Persia Ltd. Co.

Central Processing Units

Distributed Control System

A-51x Series

1

OVERVIEW

- ※ Creation of control programs in Function Block Diagram (FBD) or Ladder Diagram (LAD)
- ※ 4-Axis Synchronous Motion, 50 KHz PWM (Total 200KHz)
- ※ Able To Edit The Parameter Among The Controller Operation
- ※ Multiple AUTO-PI Synchronous Function
- ※ Multi-Lingual Display Menu
- ※ Enhance Password & Safety Function
- ※ Text Display Can Be Pre-Programmed in Two Languages
- ※ Built-in Standard High Frequency Counter (20KHz per Input, Total 80KHz)
- ※ Built-in Standard Real Time Clock (RTC)
- ※ PC Program Can be Used For All A-61/52/62 Series
- ※ ATP2 Text Panel Can Plug & Play Directly
- ※ Built-in Standard RS-485 Port, Connect More Than 10000 I/Os Via Remote I/O Module
- ※ Memory Card Which Has Copy & Password Protection
- ※ Connect Encoder & Multi-Sensors Directly
- ※ Built-in Step Motor Driver, Connect Directly
- ※ Built-in Datalog Function, MicroSD Plug-in
- ※ Display Text Display Diversity Patterns, Scrolling Text, Bar Charts, Indicators
- ※ 104 FBD Integrated Functions, 97 LD Integrated Functions
- ※ Astronomical Clock Function
- ※ ATP2 Text Panel Built-in Function Key
- ※ Digital Oscilloscope Function, Real-Time Monitoring
- ※ High-Level Math Functions
- ※ Communication Protocol MODBUS RTU/ASCII & Multi Format
- ※ Block Name Define, Program Comment
- ※ Communication Baud Rate 921600 bps
- ※ Custom Truth Table, Without Logical Analysis
- ※ Multi Communication Parameter Function
- ※ Quick Calculation Of Nonlinear Equations
- ※ Random Generator Hardware
- ※ Free PC software "TTP Edit" + "TTP Utility"



For more information, please refer to
www.tosetamin.com

Type	5188D 5188 5188M	5188D-T 5188-T 5188M-T	5189D 5189 5189M	5189D-T 5189-T 5189M-T
Operation Voltage	10-30 V DC	10-30 V DC	10-30 V DC	10-30 V DC
Inputs	8DI status low:<2VDC status high:>4VDC	8DI status low:<2VDC status high:>4VDC	4DI(Isolation) 4AI status low:<2VDC status high:>4VDC	4DI(Isolation) 4AI status low:<2VDC status high:>4VDC
Outputs	4*Isolation(Relay)	4*Isolation(Transistor)	4*Isolation(Relay)	4*Isolation(Transistor)
Continuous Current	Relay:5A (with resistive load), 2 A (with inductive load) / Transistor:1A			
Output Operating Frequency	Relay:30HZ / Transistor:50KHZ			
Input Operating Frequency	15KHZ(Total 60KHZ)			
RTC/ Hold During Power Off	Yes			
Operation Temperature	-20 to +75 °C			
Communication Ports	USB*1 & RS-485*2 & RS-232*1			
Communication Baud Rate	1200-921600bps			
Degree Of Protection	IP20			
Base Controller I/Os	12 I/Os,			
Installation	35 mm DIN rail or Flush mounting			
Dimension (W x H x D mm)	76.4*118.2*40.7 mm			
Communication Cable	CAB-MINIUSB60 or RS-485 or RS-232			

*D-x = LCM Type / *M = MicroSD Type

Remote Modules

Remote Modules

A-10x Series

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OVERVIEW

- ※ Use For A-1x/A-2x/A-5x/A-6x/A-7x Series
- ※ RS-485 Interface
- ※ Supports Modbus RTU / ASCII
- ※ LED indicator
- ※ Operation temperature -20~+75°C
- ※ Isolation voltage: 5000 V DC
- ※ Password Protection
- ※ Surge , EFT and ESD protection
- ※ Dual watchdog timer
- ※ Low power indicator
- ※ Operation Range: Up to 100 Meters
- ※ Free PC software “TTP Utility”



For more information, please refer to

www.toasetamin.com

Type	A-1057	A-1058	A-1068	A-1069	A-1051	A-1055
	DO	DO	DO	DO	DI	DIO
Operation Voltage	10-30 V DC	10-30 V DC	10-30 V DC	10-30 V DC	10-30 V DC	10-30 V DC
Inputs	---	---	---	---	16*Isolation DI status low:<1VDC status high:>5-30VDC	8*Isolation DI status low:<1VDC status high:>5-30VDC
Outputs	12 (Source Transistor)	12 (Sink Transistor)	8 (Signal Relay)	8 (Power Relay)	---	8 (Sink Transistor)
Continuous Current	10-35VDC(1A)	10-40VDC(200mA)	120VAC(0.5A)/30VDC(1A)	250VAC(5A)/30VDC(1A)	---	10-40VDC(200mA)
Communication Baud Rate	1200-115200bps					
Isolation	YES(5000VDC)					
Input Operating Frequency	10HZ					
Output Operating Frequency	Relay:10HZ / Transistor:10HZ					
Operation Temperature	-20 to +75 °C					
Degree Of Protection	IP20					
Installation	35 mm DIN rail or Flush mounting					
Dimension (W x H x D mm)	76.4*118.2*38.5 mm					

Type	A-1055S	A-1060	A-3016	A-1010	A-1011	A-1012
	DIO	DIO	Radio DIO	ADIO	ADIO	ADIO
Operation Voltage	10-30 V DC	10-30 V DC	10-30 V DC	10-30 V DC	10-30 V DC	10-30 V DC
Inputs	8*Isolation DI status low:<1VDC status high:>5-30VDC	8*Isolation DI status low:<1VDC status high:>5-30VDC	6*Button	---	---	2*Isolation DI status low:<1VDC status high:>5-30VDC
Outputs	8 (Source Transistor)	4 (Power Relay)	7 (Sink Transistor)	4 (Sink Transistor)	---	2 (Source Transistor)
Continuous Current	10-35VDC(1A)	250VAC(5A)/30VDC(1A)	10-40VDC(200mA)	10-40VDC(200mA)	---	10-35VDC(1A)
Communication Baud Rate	1200-115200bps					
Analog inputs	---			8 (0-10VDC)	7 (Sensor)	4 (Sensor)
Analog Output	---			2 (0-10VDC)	2 (0-20mA)	2 (0-20mA)
Isolation	YES(5000VDC)					
Input Operating Frequency	10HZ					
Output Operating Frequency	Relay:10HZ / Transistor:10HZ					
Operation Temperature	-20 to +75 °C					
Degree Of Protection	IP20					
Installation	35 mm DIN rail or Flush mounting					
Dimension (W x H x D mm)	76.4*118.2*38.5 mm					

Text Panel

PLC Text Panel

ATP2

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OVERVIEW

- ※ Use For All Tose Tamin Persia A-51/52/61/62 Series
- ※ Plug & Play
- ※ Multi-Lingual Display & Setting
- ※ Able To Edit The Parameter Among The Controller Operation
- ※ Enhance Password & Safety Function
- ※ Display Text Display Diversity Patterns, Scroll-in Text, Bar Charts, Indicators
- ※ Built-in Function Key
- ※ Digital Oscilloscope Function, Real-Time Monitoring
- ※ Support Start-Up Screen
- ※ RS-485 Interface
- ※ Resolution: 192*64 pixels
- ※ Dual Watchdog Timer
- ※ Surge, EFT & ESD Protection
- ※ IP65 Protection



For more information, please refer to
www.tosetamin.com

Type	ATP2 (Text Panel)
Operation Voltage	10-30 V DC
LCM	4.3" STN
Contrast	Adjustable resistor
Resolution	192*64 pixels
LCM Life	>50000 hr
Brightness	60cd/m2
Color	Monochrome
Function KEY	5-KEY
Display Dimension	96*32 mm
Operation Temperature	-10 to +55 °C
Degree Of Protection	IP65(Front Panel)
Installation	35 mm DIN rail or Flush mounting
Dimension (W x H x D mm)	157.9*86.4*28.6 mm

Accessories

DCS Accessories

Accessories

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OVERVIEW

- ※ ASPS Use For 24VDC
- ※ AMB128 Use For All Tose Tamin Persia
A-11x/A-21x/A-51x/A-52x/A-61x/A-62x Series
- ※ AMB128 Can Upload & Download Directly
- ※ AMB128 Has Copy & Password Protection
- ※ Standard Micro-SD-4GB
- ※ Micro-SD File Format *.CSV



For more information, please refer to
www.tosetamin.com

Type	ASPS	AMB128	CAB-MINIUSB60	Micro-SD-4GB
	Power Supply	Program Memory Cards	Communication lines	Data Storage Card
Operation Voltage	1-phase 100/240 V AC	USB/PLC	USB	PLC
PC Driver	----	Windows98/ME/2000/XP/Vista/7/8/ Server 2008/WinCE/Linux/MacDC	Windows98/ME/2000/XP/Vista/7/8/ Server 2008/WinCE	---- *.CSV
Support Models	A-1x/A-2x/A-3x/A-5x /A-6x/A-7x/TS/TC	A-11x/A-21x/A-51x/A-52x/A-61x/A-62x	A-51x/A-52x/A-53x	Micro-SD Type
Operation Temperature	-10 to +55 °C	-10 to +55 °C	-20 to +75 °C	-10 to +55 °C
Degree Of Protection	IP20	IP20	IP20	----
Installation	35 mm DIN rail or Flush mounting	PC or PLC	PC or PLC	PC or PLC
Dimension(W x H x D)	73*90*60.3 mm	25.7*39.7*16.8 mm	60cm	----
Input Frequeney	50 / 60 Hz	----	----	----
Fuse	YES	----	----	----
OCP	YES	----	----	----
OCP	YES	----	----	----
24VDC(MAX)	2.0A	----	----	----
Output Voltage Stability	±8%	----	----	----
Ripple	100mV	----	----	----
Efficiency	>75%	----	----	----
Power LED	YES	----	----	----

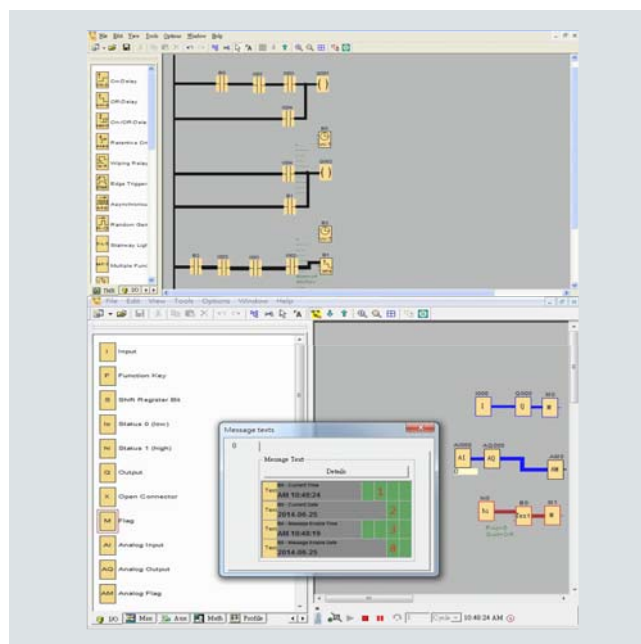
Software PLC Edit Software

TTP Editor

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OVERVIEW

- ✱ Creation of control programs in Function Block Diagram (FBD) or Ladder Diagram (LAD)
- ✱ Use For All Tose Tamin Persia A-11/21/51/52/61/62 Series
- ✱ Support Windows 98/ME/2000/XP/Vista/7/8
- ✱ Offline Simulation Can Edit Parameters
- ✱ Online Simulation Can Monitor Parameters
- ✱ Message Text Can Edit Multi-Lingual
- ✱ Built-in Datalog Function, Use Standard MicroSD
- ✱ Display Text Display Diversity Patterns, Scrollin Text, Bar Charts, Indicators
- ✱ 104 FBD Integrated Functions, 97 LD Integrated Functions
- ✱ Astronomical Clock Function
- ✱ ATP2 Text Panel Built-in Function Key
- ✱ Digital Oscilloscope Function, Real-Time Monitoring
- ✱ High-Level Math Functions
- ✱ Commute Protocol MODBUS RTU/ASCII & Multi Format
- ✱ Block Name Define, Program Comment
- ✱ Custom Truth Table, Without Logical Analysis
- ✱ Ladder Diagram Can Compile To Function Block Diagram



For more information, please refer to www.toasetamin.com

F B D	AND		Input		PI controller		NOT Mask		Square root	
	AND		Function Key		PWM		NAND Mask		Absolute value	
	NAND		Shift Register Bit		Analog Filter		NOR Mask		GCD	
	NAND		Status 0 (low)		MaxMin		XOR Mask		LCM	
	OR		Status 1 (high)		Average Value		Data array Max/Min/Avg		2' s nth power	
	NOR		Output		Latching Relay		Data Max/Min/Avg		e' s nth power	
	XOR		Open Connector		Pulse Relay		RAND		Fixed-point arithmetic	
	NOT		Flag		Message Texts		MEM		Round-off	
	On-Delay		Analog Input		Shift Register		Encoder		Sine function	
	Off-Delay		Analog Output		Mathematical instruction error detection		Stepping Motor Control		Cosine function	
	On-/Off-Delay		Analog Flag		Modbus Read		Stepping Motor Control (Edge)		Tangent function	
	Retentive On-Delay		Up/Down Counter		Modbus Write		Pulse train output		Cotangent function	
	Wiping Relay (pulse output)		Hours Counter		Boolean function		Pulse train output (Edge)		Secant function	
	Edge Triggered Wiping Relay		Threshold Trigger		Trigger date time		Segment display		Cosecant function	
	Asynchronous Pulse Generator		Mathematical instruction		Binary-Coded Decimal		Word to Bit		Quadratic equation	
	Random Generator		Analog Comparator		Binary Code		UDC Communication		Data Log	
	Stairway Lighting Switch		Analog Threshold Trigger		Left Rotation		CRC16			
	Multiple Function Switch		Analog Amplifier		Right Rotation		Odd Number			
	Weekly Timer		Analog Watchdog		Left Shift		Even Number			
	Yearly Timer		Analog Differential Trigger		Right Shift		Modulo			
F u n c t i o n	Astronomical clock		Analog MUX		AND Mask		Remainder			
	StopWatch		Analog Ramp		OR Mask		Logarithm			

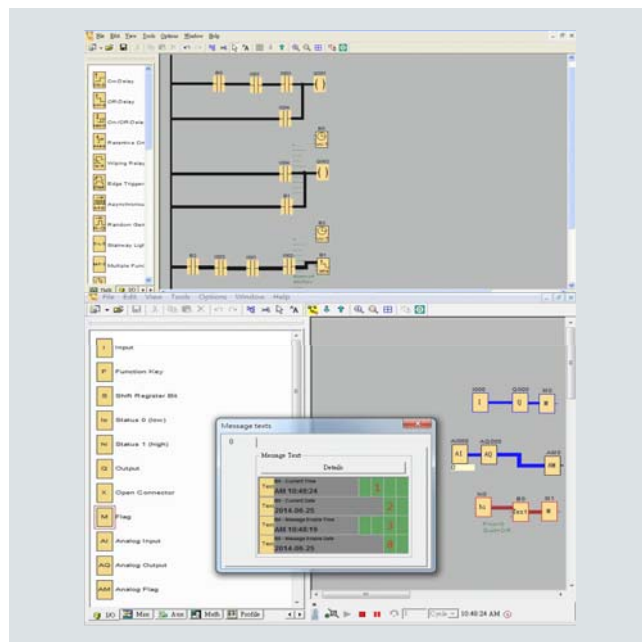
Software PLC Edit Soft

TTP Editor

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OVERVIEW

- ※ Program Comment
- ※ Project-Oriented Application Development
- ※ Ladder Diagram & Function Block Diagram Editing
Comparison Function
- ※ Program Memory Code Auxiliary Display
- ※ Component Comment



For more information, please refer to

www.tosetamin.com

L D F u n c t i o n	Make Contact		Threshold Trigger		Modbus Write		Pulse train output		Cotangent function	
	Break Contact		Mathematical instruction		Boolean function		Pulse train output (Edge)		Secant function	
	Analog Contact		Analog Comparator		Trigger date time		Segment display		Cosecant function	
	Relay Coil		Analog Threshold Trigger		Binary-Coded Decimal		Word to Bit		Quadratic equation	
	Inverted Output		Analog Amplifier		Binary Code		UDC Communication		Data Log	
	Analog Output		Analog Watchdog		Left Rotation		CRC16		Serial connect with an A contact	YES
	On-Delay		Analog Differential Trigger		Right Rotation		Odd Number		Parallel connect with an A contact	YES
	Off-Delay		Analog MUX		Left Shift		Even Number		Concatenate two blocks in series	YES
	On-/Off-Delay		Analog Ramp		Right Shift		Modulo		Merge two blocks in parallel	YES
	Retentive On-Delay		PI controller		AND Mask		Remainder			
	Wiping Relay (pulse output)		PWM		OR Mask		Logarithm			
	Edge Triggered Wiping Relay		Analog Filter		NOT Mask		Square root			
	Asynchronous Pulse Generator		MaxMin		NAND Mask		Absolute value			
	Random Generator		Average Value		NOR Mask		GCD			
	Stairway Lighting Switch		AND		XOR Mask		LCM			
	Multiple Function Switch		NAND		Data array Max/Min/Avg		2' s nth power			
	Weekly Timer		Latching Relay		Data Max/Min/Avg		e' s nth power			
	Yearly Timer		Pulse Relay		RAND		Fixed-point arithmetic			
	Astronomical clock		Message Texts		MEM		Round-off			
	StopWatch		Shift Register		Encoder		Sine function			
	Up/Down Counter		Mathematical instruction error detection		Stepping Motor Control		Cosine function			
	Hours Counter		Modbus Read		Stepping Motor Control(Edge)		Tangent function			

Monitoring and Database Software

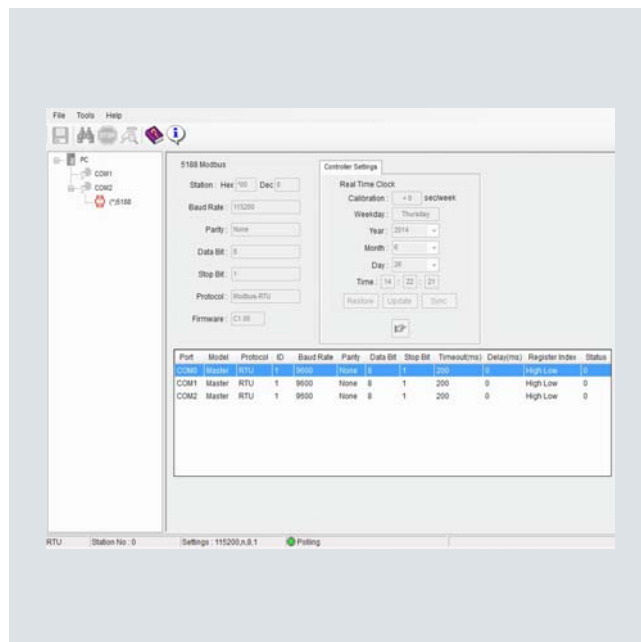
DCS Monitoring and Database Software

TTP Utility

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OVERVIEW

- ※ Monitor & Database Function
- ※ Use For All Tose Tamin Persia A-1/2/3/5/6/7 Series Controller & Time Switch Series
- ※ Windows98/ME/2000/XP/Vista/7/8
- ※ Quick Setup Distributed Device Parameter & Monitoring
- ※ Can Monitor DCS Program & Parameters
- ※ Can Monitor PLC Program & Parameters
- ※ Monitor & Database Can Use For SCADA
- ※ Real-Time Monitoring, Warning Setup
- ※ Monitor Hundreds Controllers & Distributed Devices
- ※ Component Name Comment
- ※ Easy Logical Program Function
- ※ Time Switch Series Edit
- ※ Multi Communicate Parameter Function
- ※ Support MODBUS RTU/ASCII
- ※ Quick Setup Controller RTC Parameter



For more information, please refer to
www.tosetamin.com

APPLICATIONS

ELECTRONIC EQUIPMENT

- SORTING MACHINE
- LOADER & UNLOADER
- PACKAGING MACHINE
- DETECTOR
- CUTTING MACHINE
- LAMINATOR
- COATING MACHINE
- LAPPING MACHINE
- FEEDING SYSTEM
- PRECISION MACHINERY

ELECTROMECHANICAL EQUIPMENT

- SPRAYING MACHINE
- EVAPORATION
- MACERATOR
- CALENDER MACHINE
- FLUSHING MACHINE
- ELECTROPLATING MACHINE
- WELDING MACHINE
- PRESS MACHINE
- CUTTING MACHINE
- BENDING MACHINE
- BOBBIN MACHINE
- BURN-IN EQUIPMENT
- DIE CASTER
- HEATING PROCESSING

FOOD & BEVERAGE

- PACKAGING MACHINE
- SEAL-CAPPING MACHINE
- LABELLING MACHINE
- FORMING MACHINE
- BLENDER EQUIPMENT
- CASING MACHINE
- FILLING MACHINE
- DRYER EQUIPMENT
- WEIGHT SEPARATOR
- CAPPING MACHINE
- INJECTION MACHINE
- TEMPERATURE-CONTROL

Ordering Information

Tose Tamin Persia A-51x

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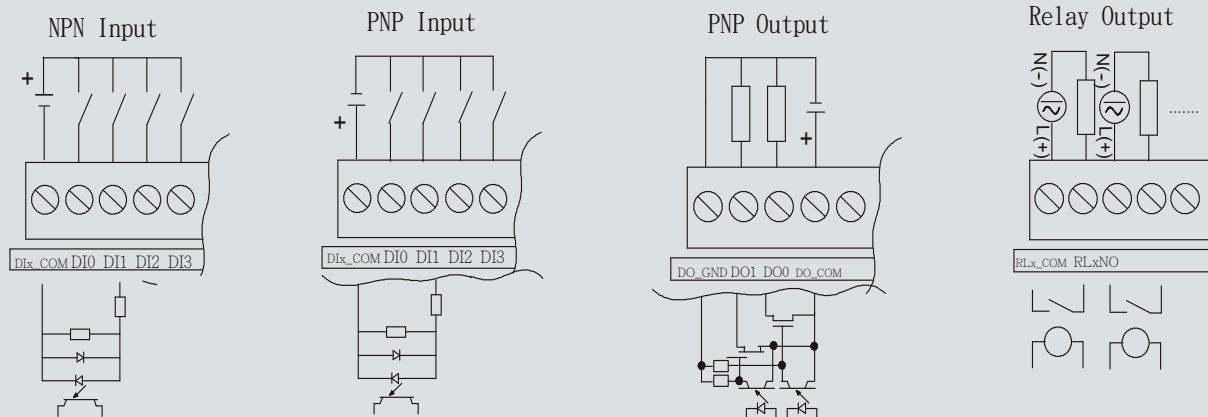
CPU		Code
5188D	Display CPU , LCM , DC Power Supply , 8DI/4DO , RELAY Output , RS-232*1 , RS-485*2 , USB2. 0*1	A-5188D
5188	Standard CPU , LED indicator , DC Power Supply , 8DI/4DO , RELAY Output , RS-232*1 , RS-485*2 , USB2. 0*1	A-5188
5188M	Micro-SD CPU , LED indicator , DC Power Supply , 8DI/4DO , RELAY Output , RS-232*1 , RS-485*2 , USB2. 0*1 , Micro-SD *1	A-5188M
5188D-T	Display CPU , LCM , DC Power Supply , 8DI/4DO , Ttansistors Output , RS-232*1 , RS-485*2 , USB2. 0*1	A-5188D-T
5188-T	Standard CPU , LED indicator , DC Power Supply , 8DI/4DO , Ttansistors Output , RS-232*1 , RS-485*2 , USB2. 0*1	A-5188-T
5188M-T	Micro-SD CPU , LED indicator , DC Power Supply , 8DI/4DO , Ttansistors Output , RS-232*1 , RS-485*2 , USB2. 0*1 , Micro-SD *1	A-5188M-T
5189D	Display CPU , LCM , DC Power Supply , 4DI/4AI/4DO , RELAY Output , RS-232*1 , RS-485*2 , USB2. 0*1	A-5189D
5189	Standard CPU , LED indicator , DC Power Supply , 4DI/4AI/4DO , RELAY Output , RS-232*1 , RS-485*2 , USB2. 0*1	A-5189
5189M	Micro-SD CPU , LED indicator , DC Power Supply , 4DI/4AI/4DO , RELAY Output , RS-232*1 , RS-485*2 , USB2. 0*1 , Micro-SD *1	A-5189M
5189D-T	Display CPU , LCM , DC Power Supply , 4DI/4AI/4DO , Ttansistors Output , RS-232*1 , RS-485*2 , USB2. 0*1	A-5189D-T
5189-T	Standard CPU , LED indicator , DC Power Supply , 4DI/4AI/4DO , Ttansistors Output , RS-232*1 , RS-485*2 , USB2. 0*1	A-5189-T
5189M-T	Micro-SD CPU , LED indicator , DC Power Supply , 4DI/4AI/4DO , Ttansistors Output , RS-232*1 , RS-485*2 , USB2. 0*1 , Micro-SD *1	A-5189M-T
Remote Modules		
1057	DO Remote Modules , LED indicator , DC Power Supply , 12DO , Source Output , RS-485*1	A-1057
1058	DO Remote Modules , LED indicator , DC Power Supply , 12DO , Sink Output , RS-485*1	A-1058
1068	DO Remote Modules , LED indicator , DC Power Supply , 8DO , Signal Relay Output , RS-485*1	A-1068
1069	DO Remote Modules , LED indicator , DC Power Supply , 8DO , Power Relay Output , RS-485*1	A-1069
1051	DI Remote Modules , LED indicator , DC Power Supply , 16DI , RS-485*1	A-1051
1055	DIO Remote Modules , LED indicator , DC Power Supply , 8DI/8DO , Sink Output , RS-485*1	A-1055
1055S	DIO Remote Modules , LED indicator , DC Power Supply , 8DI/8DO , Source Output , RS-485*1	A-1055S
1060	DIO Remote Modules , LED indicator , DC Power Supply , 8DI/4DO , Power Relay Output , RS-485*1	A-1060
3016	Radio DIO Remote Modules , LED indicator , DC Power Supply , 6DI/7DO , Sink Output , RS-485*1	A-3016
1010	ADIO Remote Modules , LED indicator , DC Power Supply , 8AI(0~10V) , 2AO(0~10V) , 4DO(Sink Output) , RS-485*1	A-1010
1011	AIO Remote Modules , LED indicator , DC Power Supply , 7AI(Sensor) , 2AO(0~20mA) , RS-485*1	A-1011
1012	ADIO Remote Modules , LED indicator , DC Power Supply , 4AI(Sensor) , 2AO(0~20mA) , 2DI , 2DO(Source Output) , RS-485*1	A-1012
Text Panel		
ATP2	4.3" STN LCM , DC Power Supply , RS-485*1	ATP2
Accessories		
ASPS	Power Supply , 24V/2A	ASPS
AMB128	Program Memory Cards	AMB128
CAB-MINIUSB60	Communication lines	CAB-MINIUSB60
Micro-SD-4GB	Data Storage Card	Micro-SD-4GB
Software		
TTP Editor	Edit Software	TTP Editor
TTP Utility	Monitoring and Database Software	TTP Utility
AMB128 Driver	AMB128 PC Driver	DR-AMB128
CAB-MINIUSB60 Driver	CAB-MINIUSB60 PC Driver	DR-CAB-MINIUSB60

Wiring Diagrams & Pin Out

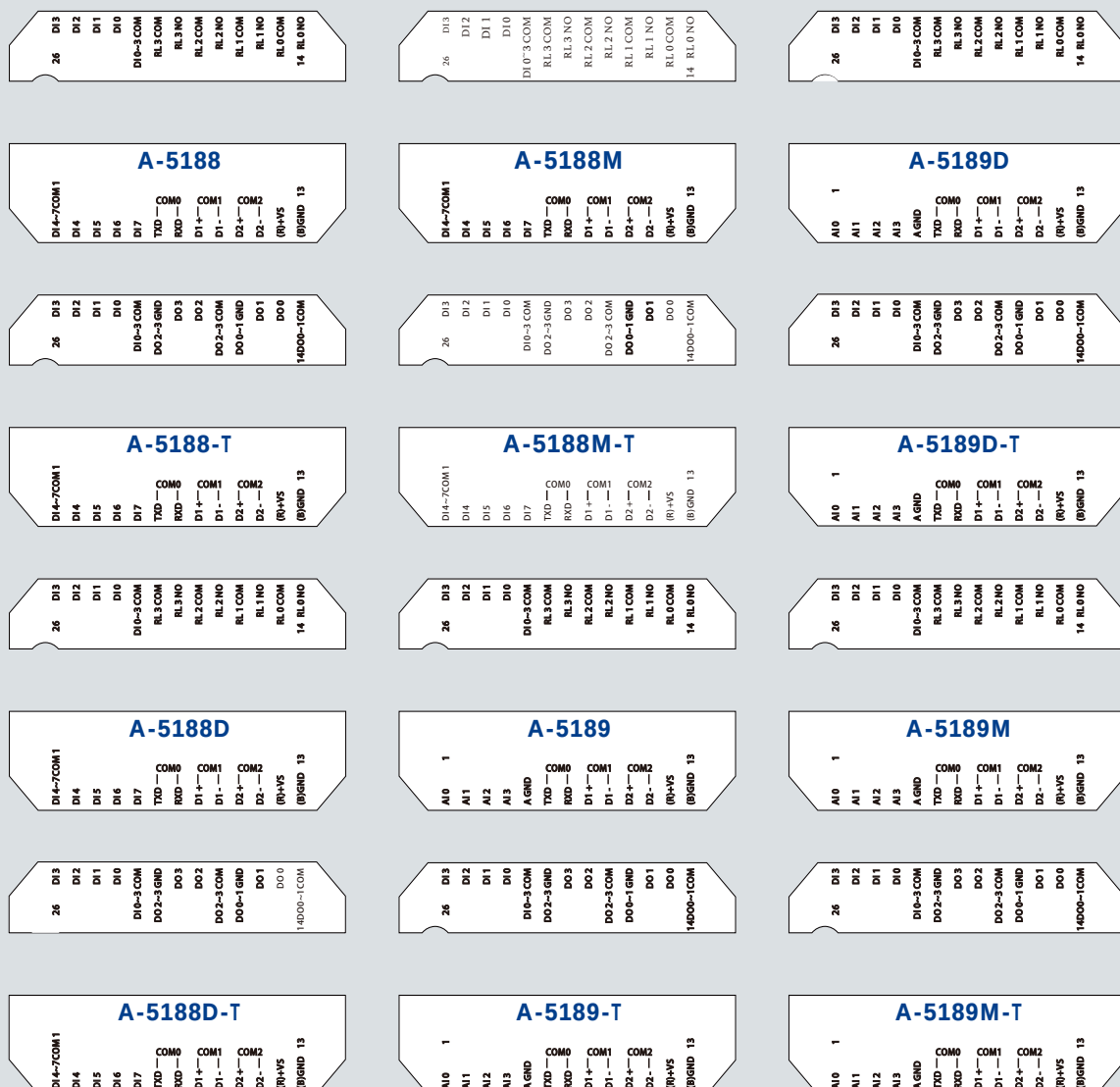
DCS & Remote Modules

A-51x Series

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更多資訊請參考
www.tosetamin.com



Dimension

DCS & Remote Modules

DCS

Dimension

