

# A-52x Series Distributed Control System

Catalogue • 2016. 10



Android



A-52x Wi-Fi DCS

**eAutomation Solution**

 Yottacontrol Co.

# Central Processing Units

## Wi-Fi Distributed Control System

### A-52x Wi-Fi Series



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#### OVERVIEW

- ※ Creation Of Control Programs In Function Block Diagram (FBD) Or Ladder Diagram (LAD)
- ※ 4-Axis Synchronous Motion, 100 KHz PWM (Total 400KHz)
- ※ 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 (250KHz Per Input, Total 1000KHz)
- ※ 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 IOs Via Remote IO Module
- ※ 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 ....
- ※ 108 FBD Integrated Functions, 103 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 "Yotta Edit" + "YottaUtility"
- ※ The A-3288 Two-Way Communicate Transmitter, Enhance Message Text Function, Edit Controller Program/Parameter Directly, Stand By Mode
- ※ Free iOS / Android APP "WStation-Pro", Able To Monitor The Controller Status And Control Digital/Analog Inputs Directly
- ※ Able To Connect Wi-Fi AP, Internet Of Things (IOT), Remote Control



For more information, please refer to

[www.yottacontrol.com](http://www.yottacontrol.com)

- ※ Able To Connect Wi-Fi Range Extender, To Enhance The Wireless Operate Range
- ※ Standard 2.4GHz IEEE 802.11 b/g (Wi-Fi)
- ※ 1 Unit Wi-Fi Controller Base Can Communicate With 7 Units Wi-Fi Devices
- ※ Support Server/Station/Groups/Remote/Slave Mode
- ※ Able To Use For Master Or Slave Application
- ※ Support MODBUS Over TCP/IP, MODBUS Over UDP/IP
- ※ Support WPA2-PSK(AES)
- ※ Able To Set For Wi-Fi To MODBUS 3-port Gateways
- ※ Able To Set For Wi-Fi to MODBUS 3-port Serial Device Servers
- ※ Adjustable Transmission Power
- ※ Built-in Current/Voltage/PT-100 Input + Current Output
- ※ Data Can Be Interchange By Each Controller

Type	5290D	5288D	5288D-T	5289D	5289D-T
Operation Voltage	10~30VDC/24VAC	10~30VDC/24VAC	10~30VDC/24VAC	10~30VDC/24VAC	10~30VDC/24VAC
Inputs	2*DI(Isolation) (low:<2VDC/high:>4VDC) 2*CIrent(0/4~20mA)+2*PT-100 (Range:-50~+200°C /Resolution:0.25°C)	8*DI(Isolation) status low:<2VDC status high:>4VDC	8*DI(Isolation) status low:<2VDC status high:>4VDC	4*DI(Isolation) status low:<2VDC status high:>4VDC 4*AI(0~10VDC)	4DI(Isolation) status low:<2VDC status high:>4VDC 4*AI(0~10VDC)
Outputs	2*Isolation(Transistor) 2*AO(0/4~20mA)	4*Isolation(Relay)	4*Isolation(Transistor)	4*Isolation(Relay)	4*Isolation(Transistor)
Continuous Current	Transistor:10~35VDC/200mA AO(0~20mA/4~20mA)	Relay:5A (with resistive load), 2 A (with inductive load) / Transistor:1.75A(OCP/OTP/UVLO)			
Output Operating Frequency	Relay:30HZ / Transistor:100KHZ				
Input Operating Frequency	250KHZ(Total 1000KHZ)				
RTC/ Hold During Power Off	Yes				
Operation Temperature	-20 to +75 °C				
Communication Ports	Wi-Fi*1 & USB*1 & RS-485*1		Wi-Fi*1 & USB*1 & RS-485*2 & RS-232*1		
Communication Baud Rate	1200~921600bps				
Degree Of Protection	IP20				
Base Controller IOs	10 IOs		12 IOs		
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

# Two-Way communicate Transmitter

## The A-3288/A-3289 Two-Way communicate Transmitter

### A-3288/3289



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#### OVERVIEW

- ※ Suitable For the A-52 Series Wi-Fi Controller
- ※ Plug & Play Directly
- ※ Multi-Lingual Display Menu
- ※ Able To Edit The Parameter Among The Controller Operation
- ※ IP66 Protection
- ※ Display Text Display Diversity Patterns, Scrolling Text, Bar Charts, Indicators ....
- ※ Built-in Function Key & Twin Display
- ※ Digital Oscilloscope Function, Real-Time Monitoring
- ※ Support Start-Up Display
- ※ Standard 2.4GHz IEEE 802.11 b/g (Wi-Fi)
- ※ Display Resolution: 96\*64 Pixels
- ※ Dual Watchdog Timer
- ※ The Transmitter Able To Edit Controller Program /Parameter Directly Without PC Software
- ※ Support WPA2-PSK(AES)
- ※ Able To Use 7 Units Transmitter To Communicate With 1 Unit Wi-Fi Controller, And Process The Independent Operation Per Transmitter
- ※ Two-Way Communicate System, Can Via The Display To Monitor
- ※ Multi-Channel & Multi-Clustering Can Be Used Simultaneously, No ID groups Limit
- ※ Adjustable Transmission Power



For more information, please refer to [www.yottacontrol.com](http://www.yottacontrol.com)



Type	A-3288 (Wi-Fi Two-Way Communicate Transmitter)	A-3289 (Wi-Fi Two-Way Communicate Transmitter)
Operation Voltage	AA Battery *4 / RCR-V3	AA Battery *2
Display	1.8 " STN	---
Contrast	Adjustable directly	---
Resolution	96*64 pixels	---
STN Display Life	More than 50000 hours	---
Brightness	60cd/m2	---
Display Color	Monochrome	---
Function Keys	9, Definable	6
Display Dimension	38*28 mm	---
Operation Temperature	-20 to +75 °C	-20 to +75 °C
Degree Of Protection	IP66	IP66
Communication	Standard 2.4GHz IEEE 802.11 b/g (Wi-Fi)	Standard 2.4GHz IEEE 802.11 b/g (Wi-Fi)
Dimension (W x H x D)	222.1*65.6*45 mm	120*55*25 mm

# Text Panel

## PLC Text Panel

### ATP2

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#### OVERVIEW

- ※ Use For All Yottacontrol 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.yottacontrol.com](http://www.yottacontrol.com)

Type	ATP2 (Text Panel)
Operation Voltage	10~30VDC/24VAC
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

# Remote Modules

## I/O Remote Modules

### A-10x Series

#### OVERVIEW

- ※ Use For Yottacontrol Whole Series Controller
- ※ RS-485 Interface
- ※ Supports Modbus RTU / ASCII
- ※ LED Indicator
- ※ Operation Temperature -20~+75°C
- ※ Isolation Voltage: 5000 V DC
- ※ Surge , EFT And ESD Protection
- ※ Dual Watchdog Timer
- ※ Low Power Indicator
- ※ Operation Range: Up To 1200 Meters
- ※ Free Monitor PC Software "YottaUtility"



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Type	A-1057	A-1058	A-1068	A-1069	A-1051	A-1055
	DO	DO	DO	DO	DI	DIO
Operation Voltage	10~30VDC/24VAC	10~30VDC/24VAC	10~30VDC/24VAC	10~30VDC/24VAC	10~30VDC/24VAC	10~30VDC/24VAC
Inputs	---	---	---	---	16*Isolation DI status low:<1VDC status high:>5~30VDC	8*Isolation DI status low:<1VDC status high:>5~30VDC
Outputs	12 (Souce 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
	DIO	DIO
Operation Voltage	10~30VDC/24VAC	10~30VDC/24VAC
Inputs	8*Isolation DI status low:<1VDC status high:>5~30VDC	8*Isolation DI status low:<1VDC status high:>5~30VDC
Outputs	8 (Souce Transistor)	4 (Power Relay)
Continuous Current	10-35VDC(1A)	250VAC(5A)/30VDC(5A)
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	

# Remote Modules

## Analog I/O Remote Modules

### A-10x Series

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#### OVERVIEW

- ※ Analog Input 16-bit Resolution
- ※ Analog Output 12-bit Resolution
- ※ Support Analog Input/Output 0/4 ~20mA Or 0~10V
- ※ Support PT-100 Or PT-1000 (2/3/4-wired)
- ※ Support J, K, T, E, R, S, B Thermocouple
- ※ Support 10K/6.8K/4.7K/3.3K/2.7K/2.252K/2.1K/2K/1.5K/1K Thermistor
- ※ Burn-out Detection
- ※ RS-485 Interface + USB Interface
- ※ Hi-Speed RS-485 Interface (Max 921600bps)
- ※ Supports Modbus RTU / ASCII
- ※ LED Indicator
- ※ Operation Temperature -20~+75°C
- ※ Isolation Voltage: 5000 V DC
- ※ Surge , EFT And ESD Protection
- ※ Dual Watchdog Timer
- ※ Low Power Indicator
- ※ Operation Range: Up To 1200 Meters
- ※ Free PC Software "YottaUtility "



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Type	A-1010	A-1012	A-1019
	ADIO	ADIO	ADIO
Operation Voltage	10~30VDC/24VAC	10~30VDC/24VAC	10~30VDC/24VAC
Inputs	---	2*Isolation DI status low:<1VDC status high:>5~30VDC	4*Isolation DI status low:<1VDC status high:>5~30VDC
Outputs	4*(Transistor)	2*(Transistor)	---
Continuous Current	10-40VDC(200mA)	10-35VDC(1A)	---
Communication Baud Rate			2400~921600bps
Isolation			YES(5000VDC)
Input Operating Frequency			10HZ
Output Operating Frequency			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
Analog Inputs	8 (10-bit)	4 (16-bit)	8 (16-bit)
Analog Input Type	0~10V	2* 0/4~20mA 2* PT-100/1000 (-200 ~ +600°C)	0/4~20mA,J,K,T,E,R ,S,B,Thermistor (-270 ~ +1800°C)
Analog Outputs	2 (10-bit)	2 (12-bit)	---
Analog Output Type	0~10V	0/4 ~20mA	---
Input Impedance	Voltage:10 MΩ	Current: 100 Ω RTD : 10 MΩ	Current: 100 Ω Voltage : 10 MΩ
AnalogInput / Output Accuracy	±1% / ±1%	±0.1% / ±1%	±0.1% / ---
Interface	RS-485		RS-485 + USB
Channel Independent Configuration			YES
Sampling Rate			10 sample/second (total)
CMR @ 50/60 Hz			120 dB
Span Drift			±50 ppm/°C
Zero Drift			±18 μV/°C
Temperature Ranges	(PT-100:-200~600°C) (PT-1000:-200~600°C) (J:-210~760°C) (K:-270~1370°C) (T:-270~400°C) (E:-270~1000°C) (R:0~1750°C) (S:0~1750°C) (B:0~1800°C) (Thermistor-10K-T2:0~100°C) (Thermistor-10K-T3:0~100°C) (Thermistor-6.8K:-10~100°C) (Thermistor-4.7K:-10~100°C) (Thermistor-3.3K:-20~100°C) (Thermistor-3K:-20~100°C) (Thermistor-2.7K:-20~100°C) (Thermistor-2.252K:-20~100°C) (Thermistor-2.1K:-30~100°C) (Thermistor-2K:-30~100°C) (Thermistor-1.5K:-40~100°C) (Thermistor-1K:-40~100°C)		

# Accessories

## DCS Accessories

### Accessories

#### OVERVIEW

- ※ ASPS Use For 24VDC
- ※ AMB128 Use For A-11x/A-21x/A-51x/A-61x Series
- ※ AMB128 Can Upload & Download Directly
- ※ AMB128 Has Copy & Password Protection
- ※ Standard Micro-SD-8GB
- ※ Micro-SD File Format \*.CSV



For more information, please refer to [www.yottacontrol.com](http://www.yottacontrol.com)

Type	ASPS	AMB128	CAB-MINIUSB60	Micro-SD-8GB
	48W 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-61x	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 Frequency	50 / 60 Hz	---	---	---
Fuse	YES	---	---	---
OCP	YES	---	---	---
OTP	YES	---	---	---
24VDC(MAX)	2.0A	---	---	---
Output Voltage Stability	-+8%	---	---	---
Ripple	100mV	---	---	---
Efficiency	>75%	---	---	---
Power LED	YES	---	---	---

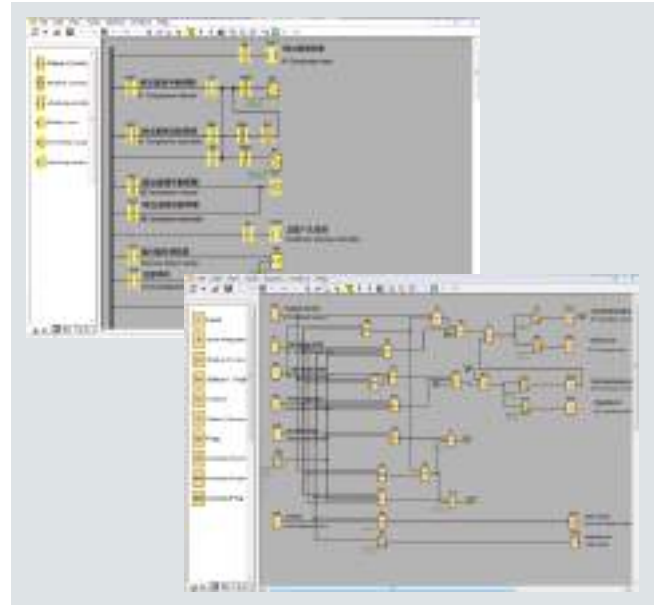
# Software PLC Edit Software

## YottaEditor

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### OVERVIEW

- ※ Creation Of Control Programs In Function Block Diagram (FBD) Or Ladder Diagram (LAD)
- ※ Use For All Yottacontrol A-11/21/51/52/61 Series
- ※ Support Windows98/ME/2000/XP/Vista/7/8/10
- ※ 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 ....
- ※ 108 FBD Integrated Functions, 103 LD Integrated Functions
- ※ Astronomical Clock Function
- ※ ATP2 Text Panel Built-in Function Key
- ※ Digital Oscilloscope Function, Real-Time Monitoring
- ※ High-Level Math Functions
- ※ Communicate 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



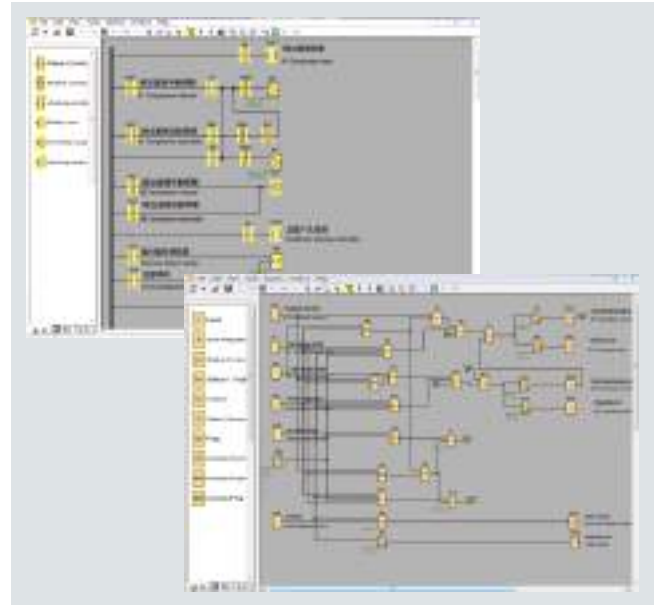
For more information, please refer to [www.yottacontrol.com](http://www.yottacontrol.com)

F B D  F u n c t i o n	AND	&	Input	I	PI controller	NOT Mask	NOT MASK	Square root	SQRT
	AND	↑&	Function Key	F	PWM	NAND Mask	~ & MASK	Absolute value	ABS
	NAND	↑&	Sift Register Bit	S	Analog Filter	NOR Mask	≥1 MASK	GCD	GCD
	NAND	↓&	Status 0 (low)	lo	MaxMin	XOR Mask	=1 MASK	LCM	LCM
	OR	≥1	Status 1 (high)	hi	Average Value	Data array Max/Min/Avg	AXIV	2 ' s nth power	POW2
	NOR	≥1	Output	Q	Latching Relay	Data Max/Min/Avg	DXIV	e ' s nth power	EXP
	XOR	=1	Open Connector	X	Pulse Relay	RAND	Rand	Fixed-point arithmetic	FIX
	NOT	↑	Flag	M	Message Texts	MEM	MEM	Round-off	Round
	On-Delay	ON-D	Analog Inut	AI	Shift Register	Encoder	ENC	Sine function	SIN
	Off-Delay	OFF-D	Analog Output	AQ	Mathematical instruction error detection	Stepping Motor Control	SMC	Cosine function	COS
	On-/Off-Delay	ON/OFF	Analog Flag	AM	Modbus Read	Stepping Motor Control(Edge)	SMCE	Tangent function	TAN
	Retentive On-Delay	ON-D	Up/Down Counter	↑/D	Modbus Write	Pulse train output	PTO	Cotangent function	COT
	Wiping Relay ( pulse output )	W-R	Hours Counter	H-C	Boolean function	Pulse train output (Edge)	PTOE	Secant function	SEC
	Edge Triggered Wiping Relay	ETWR	Threshold Trigger	↑	Trigger date time	Segment display	SEG	Cosecant function	CSC
	Asynchronous Pulse Generator	A-P-G	Mathematical instruction	↑ = A	Binary-Coded Decimal	Word to Bit	WTB	Quadratic equation	QUAD
	Random Generator	R-G	Analog Comparator	△A	Binary Code	UDC Communication	UDC	Data Log	L
	Stairway Lighting Switch	S-L-S	Analog Threshold Trigger	↑A	Left Rotation	CRC16	CRC	WiFi Digital Read	↑I
	Multiple Function Switch	M-F-S	Analog Amplifier	A	Right Rotation	Odd Number	ODD	WiFi Digital Write	↑Q
	Weekly Timer	W-T	Analog Watchdog	↑	Left Shift	Even Number	EVEN	WiFi Analog Read	↑AI
	Yearly Timer	Y-T	Analog Differential Trigger	△	Right Shift	Modulo	MOD	WiFi Analog Write	↑AQ
Astronomical clock	AC	Analog MUX	↑ = A	AND Mask	Remainder	REM			
StopWatch	SW	Analog Ramp	↑A	OR Mask	Logarithm	LOG			

# Software PLC Edit Soft YottaEditor

## 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.yottacontrol.com](http://www.yottacontrol.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		WiFi Digital Read	
	Wiping Relay (pulse output)		PWM		OR Mask		Logarithm		WiFi Digital Write	
	Edge Triggered Wiping Relay		Analog Filter		NOT Mask		Square root		WiFi Analog Read	
	Asynchronous Pulse Generator		MaxMin		NAND Mask		Absolute value		WiFi Analog Write	
	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			

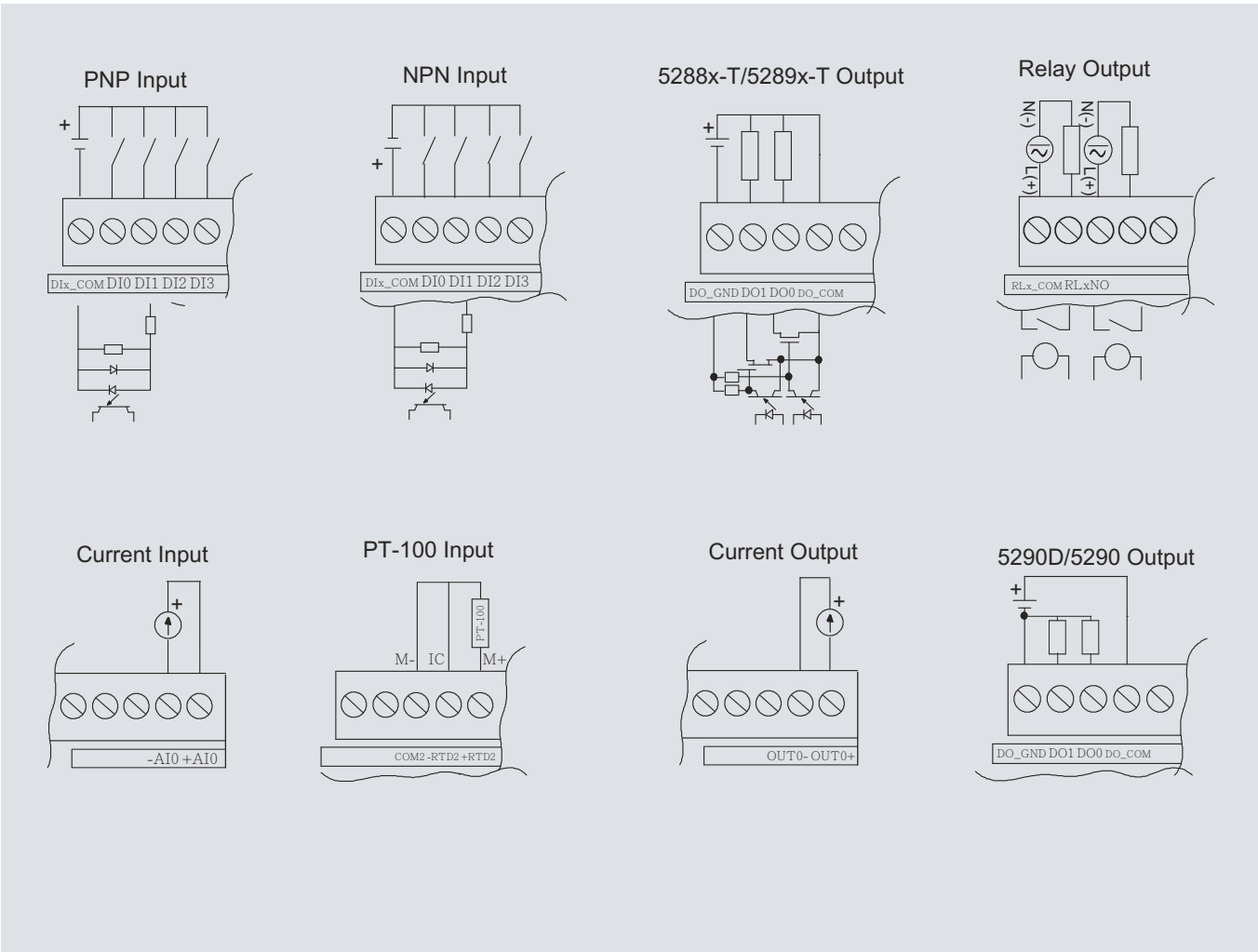




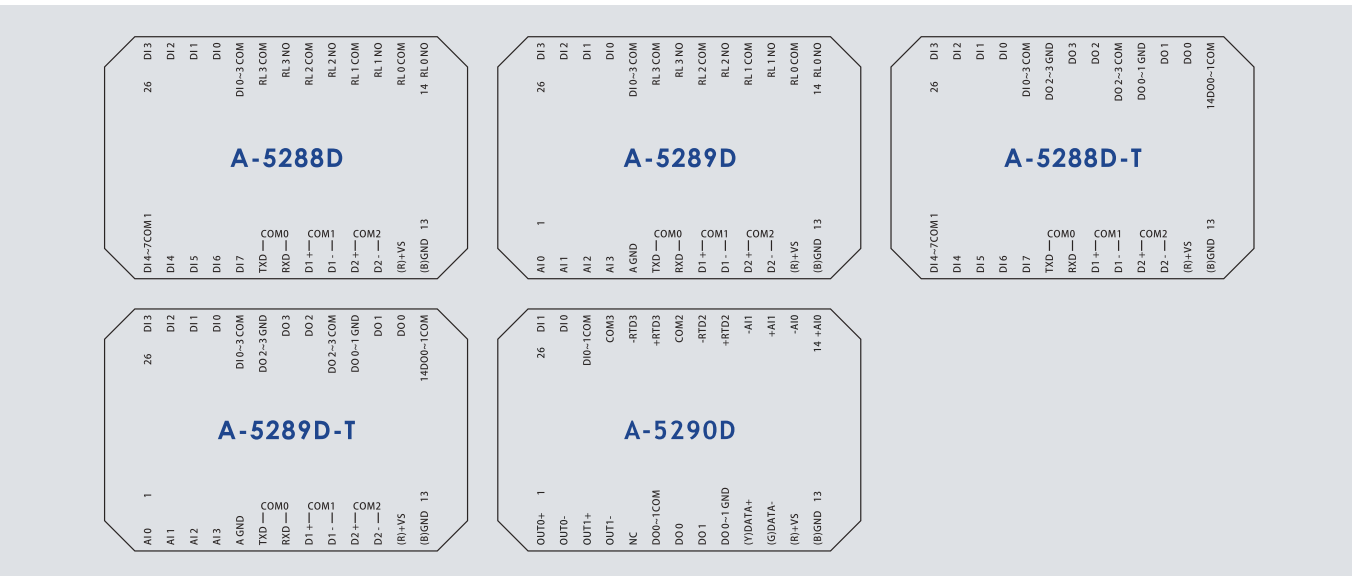
# Wiring Diagrams & Pin Out

## DCS & Remote Modules

### A-52x Series



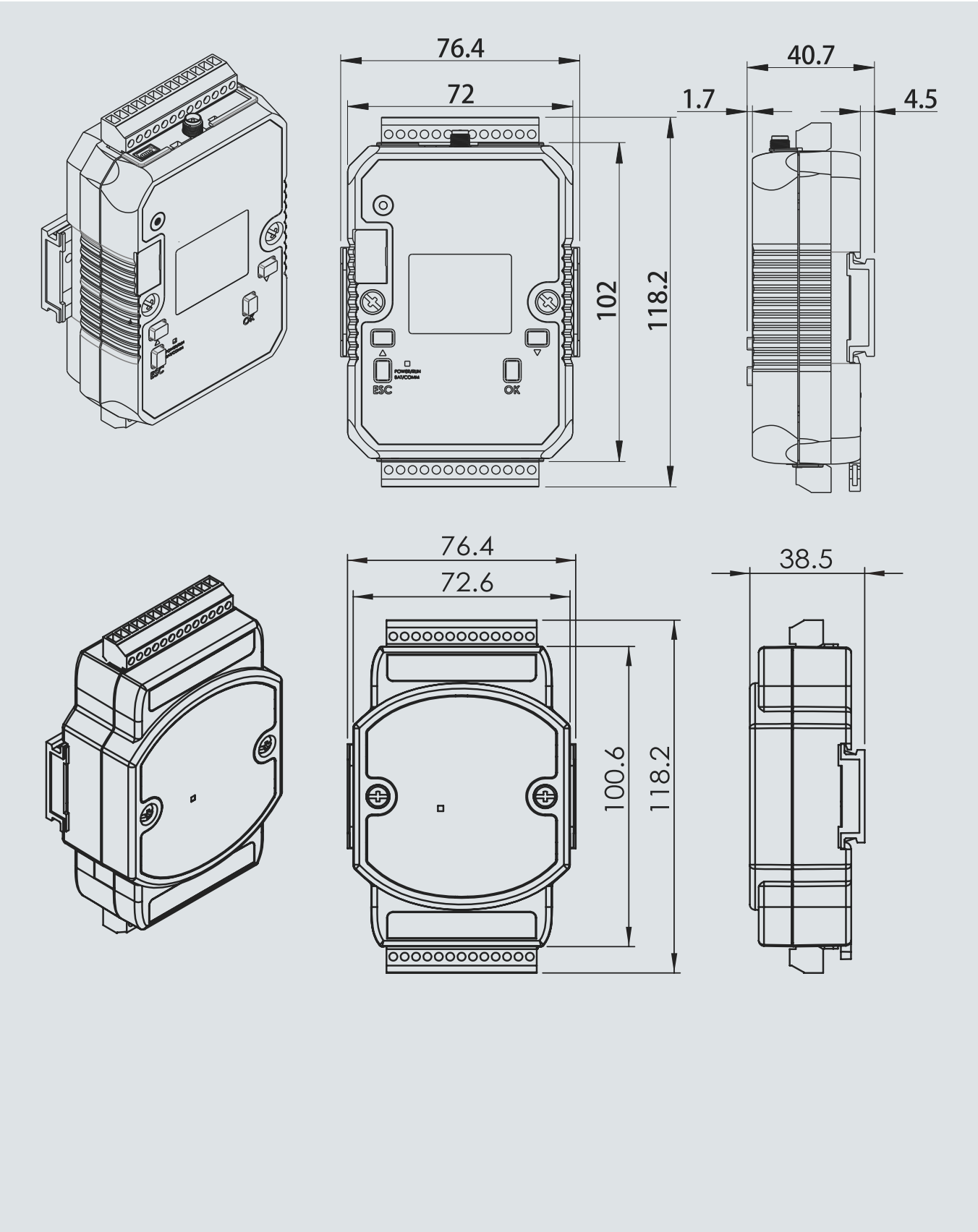
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# Dimension

## DCS & Remote Modules

### DCS

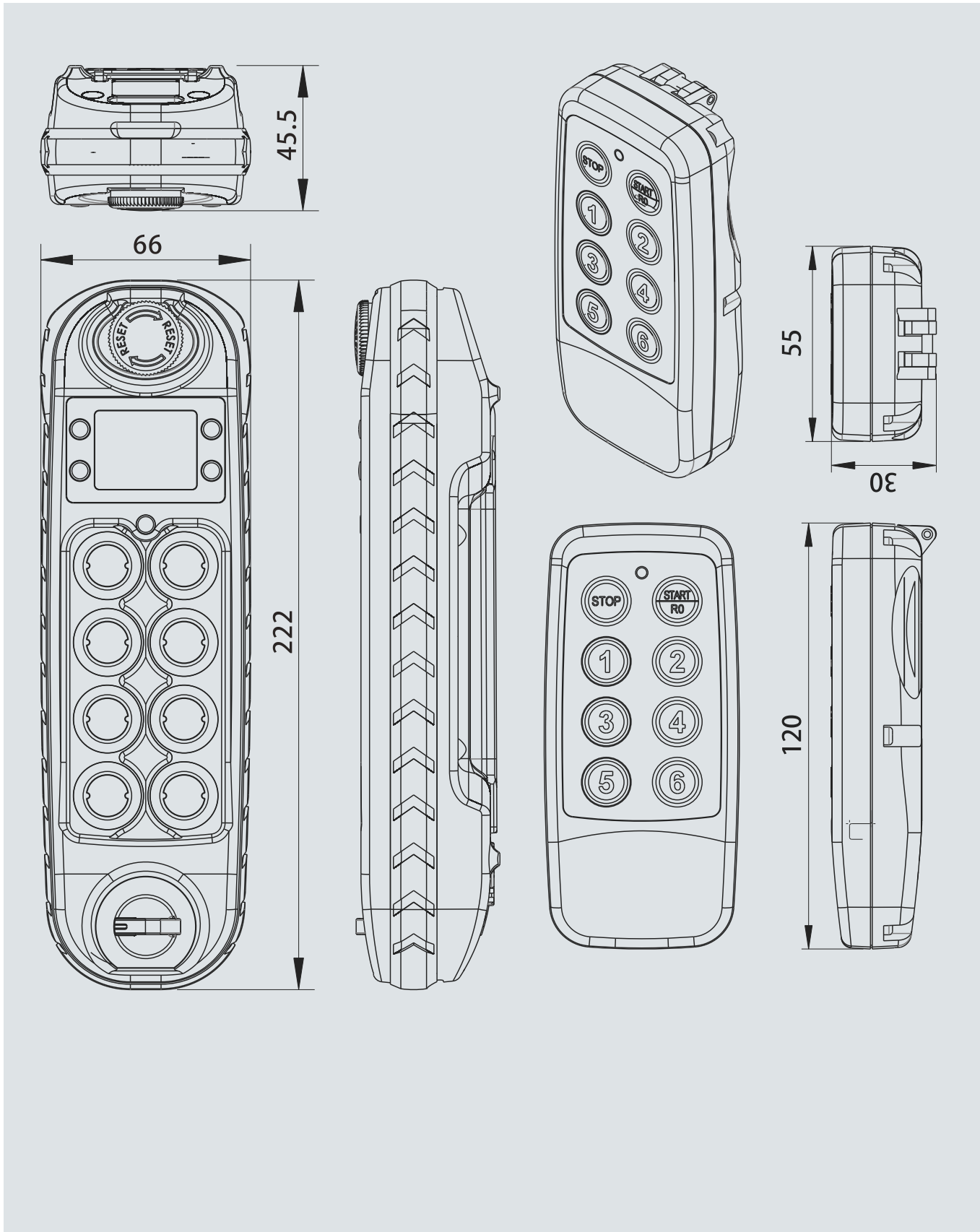


# Dimension

## DCS & Remote Modules

### DCS

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# Dimension

## DCS & Remote Modules

### DCS

