

FATEK[®] The Brand You Can Rely on



Main Unit

Main Unit Specifications



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Basi	c Main Un	its (MA/MB)	And in case of the local division of the	And in case of the local division of the loc	And in case of the local division of the loc	And in case of the local division of the loc	And and a second se	And an other Designation of the local division of the local divisi			
Spec	ification	Model	FBs-32MAR FBs-32MBR	FBs-32MAT/J FBs-32MBT/J	FBs-40MAR FBs-40MBR	FBs-40MAT/J FBs-40MBT/J	FBs-60MAR FBs-60MBR	FBs-60MAT/J FBs-60MBT/J			
		High speed (100KHz)			2 pc	pints					
Digita		Medium speed (20KHz)		6 points							
al Inpu	24VDC	Medium speed (Total 5KHz)		8 points							
-		Medium low speed	4 pc	4 points		pints	20 p	oints			
	Relay		12 points	_	16 points	_	24 points	—			
gital		High speed (100KHz)		2 points							
Outp	Transistor	Medium speed (20KHz)	—	6 points	_	6 points	—	6 points			
out		Low speed	—	4 points	_	8 points	—	16 points			
Comm	unioation Dort	Built-in			1 port (Port0,	USB or RS232)					
	unication Fort	Expandable	2 ports (Port1~2, RS485 or RS232 or Ethernet)								
	C	alendar	built-in								
Built-in power supply			SPW24-AC/D12/D24								
	Wiring	mechanism	7.62mm fixed terminal block(MA), 7.62mm detachable terminal block (MB)								
	Dir	nension			Figu	ıre 1					



Spec	ification	Model	FBs-10MCR	FBs-10MCT/J	FBs-14MCR	FBs-14MCT/J	FBs-20MCR	FBs-20MCT/J	FBs-24MCR	FBs-24MCT/J
Digi		High speed (200KHz)		2 po	ints		4 points			
talli	24VDC	Medium speed (20KHz)		2 po	oints		2 pc	pints	4 pc	pints
nput		Medium speed (Total 5KHz)	2 pc	pints	4 points		6 points			
		Relay	4 points		6 points	—	8 points		10 points	—
Digital c	Transistor	High speed (200KHz)	_	2 points	_	2 points		4 points	_	4 points
utpu		Medium speed (20KHz)	—	2 points	—	4 points	—	4 points	—	4 points
Ħ		Low speed				—	—		—	2 points
Com	munication	Built-in	1 port (Port0, USB or RS232)							
	Port	Expandable	4 ports (Port1~4, RS485 or RS232 or Ethernet or GSM or ZigBee)							
	(Calendar				Bui	lt-in			
Built-in power supply		SPW14-AC/D12/D24				SPW24-AC/D12/D24				
Wiring mechanism			7.62mm fixed terminal block				7.62mm detachable terminal block			
	D	imension		Figu	ire 2			Figu	ire 1	

Advanced Main Units (MC)

Main Unit Specifications

Advanced Main Units (MC)				-	-			-		
Spe	cification	Model	FBs-32MCR	FBs-32MCT/J	FBs-40MCR	FBs-40MCT/J	FBs-60MCR	FBs-60MCT/J		
	High speed (200KHz)			6 pc		8 points				
Digita		Medium speed (20KHz)		2 pc	_					
l Input	24VD0	Medium speed (Total 5KHz)								
		Medium low speed (0.47ms)	4 pc	vints	8 pc	pints	20 points			
		Relay	12 points		16 points	—	24 points	—		
Digital		High speed (200KHz)	—	6 points	—	6 points	—	8 points		
output	Transistor	Medium speed (20KHz)	—	2 points	—	2 points	_			
		Low speed	—	4 points	—	8 points	—	16 points		
Con	nmunication	Built-in	1 port (Port0, USB or RS232)							
	Port	Expandable	4 ports (Port1~4, RS485 or RS232 or Ethernet or GSM or ZigBee)							
	Cale	endar			Bui	lt-in				
	Built-in po	wer supply			SPW24-AC	Z/D12/D24				
	Wiring m	echanism			7.62mm detachat	ole terminal block				
	Dime	ension			Figu	ire 1				



Specification Model			EDO 20MNIT/1	EDo 20MND	EDo 20MNIT/1					
Spe	cincation	Wodor	FDS-ZUIVIINR	FBS-ZUIVIN I/J	FDS-32IVINR	FDS-32IVIINI/J	FDS-44IVIINR	FDS-44IVIIN1/J		
	5VDC Differential	Ultra high speed (920KHz)	2 point	s (1 axis)	4 point	s(2 axes)	8 points(4 axes)			
gita		High speed (200KHz)	4 points 6 points		4 pc	pints	_	_		
I Input	24VDC	Medium speed (Total 5KHz)				8 points				
		Low speed	—		4 pc	pints	12 p	oints		
		Relay	6 points	_	8 points	—	8 points	—		
Digital o	5VDC Differential	Ultra high speed (920KHz)	2 points (1 axis)		4 points	s (2 axes)	8 points(4 axes)			
outpu	Transistor	High speed (200KHz)		6 points		4 points		_		
17	Transistor	Low speed		_		4 points	_	8 points		
Co	mmunication	Built-in	1 port (Port0, USB or RS232)							
	Port	Expandable		4 ports (F	Port1~4, RS485 or RS23	2 or Ethernet or GSM c	or ZigBee)			
	С	alendar			Bui	lt-in				
	Built-in	power supply	SPW24-AC/D12/D24							
	Wiring) mechanism	7.62mm detachable terminal block							
	Di	mension			Figu	ure 1				

Right Side Expansion Module Specifications

NC Positioning Main Units (MN)

DIO Expansion Units			2-1	1-1						
Specific	ation	Model	FBs-24XYR	FBs-24XYT/J	FBs-40XYR	FBs-40XYT/J	FBs-60XYR	FBs-60XYT/J		
Digital Input	Digitize 24VDC Low speed		14 points		24 p	oints	36 points			
Dig out		Relay	10 points	_	16 points		24 points			
ital put	Transistor	Low speed	_	10 points	_	16 points		24 points		
	Built-in pow	er supply	SPW24-AC/D12/D24							
Wiring mechanism			7.62mm fixed terminal block							
	Dimen	ision	Figure 1							

Right Side Expansion Module Specifications

Powe Expai	r Supplies for nsion Modules	-1					
Specifi	cation Model	FBs-EPW-AC	FBs-EPW-D24				
Ca	5VDC Bus power	40	00mA				
pacity out po	24VDC Bus power	25	50mA				
/ of wer	24VDC Sensor power	250mA					
	Input voltage	100~240 VAC, -15%/+10%	24VDC, -15%/+20%				
Maximum power consumption			21W				
1	Wiring mechanism	7.62mm fixed terminal block					
	Dimension	Fig	gure 4				

DIO Expansion Modules										
ation	Model	FBs-8XYR	FBs-8XYT/J	FBs-8X	FBs-8YR	FBs-8YT/J	FBs-16XYR	FBs-16XYT/J	FBs-20X	
24VDC	Low Speed	4 pc	pints	8 points	_	—	8 pc	pints	20 points	
R	lelay	4 points	—	—	8 points	—	8 points	_	—	
Transistor	Low Speed	—	4 points	_	—	8 points	_	8 points	—	
Wiring mechanism			7.62 mm fixed terminal block							
Dimension				Figure 4				Figure 3		
	pansion ation 24VDC F Transistor Wiring mech Dimensi	Modules Model 24VDC Low Speed Relay Low Speed Transistor Low Speed Wiring mec⊢arism Dimension	pansion Hodules tion Model FBs-8XYR 24VDC Low Speed 4 points Transistor Low Speed — Niring mechanism 6. Dimension 1.	pansion WodulesFBS-8XYRFBS-8XYT/JationModelFBS-8XYRFBS-8XYT/J24VDCLow Speed4 points—TransistorLow Speed—4 pointsTransistorLow Speed—4 pointsWiring mechanismJunensionJunensionImage: State Sta	pansion WodulesV V V V V V V V V V V V V V V V V V V	pansion WodulesFBs-8XYRFBs-8XYT/JFBs-8XYR24VDCLow SpeedFBs-8XYRFBs-8XYT/JFBs-8XFBs-8YR24VDCLow Speed4 points8 pointsTransistorLow Speed4 points8 pointsTransistorLow Speed4 pointsWring mectorImage: State	Pansion Vodules V V V Ation Model FBs-8XYR FBs-8XYT/J FBs-8X FBs-8YR FBs-8YR 24VDC Low Speed 4 points 8 points 24VDC Low Speed 4 points 8 points Transistor Low Speed 4 points 8 points Viring merity Sector 4 points 8 points Dimensity Sector Sector 5 points	pansion VodulesV VVVVVVVVVVVVVVVES-8XYRFBs-8XYR <th< td=""><td>pansion VodulesVVVVVVVVVVVVVVVVVVVVVVVVVVVVVV<th colspan="5</td><td>pansion VodulesVertex Visual Visual</td></td></th<>	pansion VodulesVVVVVVVVVVVVVVVVVVVVVVVVVVVVVV<th colspan="5</td> <td>pansion VodulesVertex Visual Visual</td>	pansion VodulesVertex Visual

(C	ontinu	ıe)		1		-1	1		-1	
Sp	pecific	ation	Model	FBs-16YR	FBs-16YT/J	FBs-24X	FBs-24YT/J	FBs-24XYR	FBs-24XYT/J	FBs-40XYR
D	igital nput	24VDC	Low Speed			24 points		14 p	oints	24 points
		Relay		16 points				10 points		16 points
	igital utnut	High dens	ity low speed				24 points			_
	atput	Transistor	Low Speed		16 points	—		_	10 points	—
	Wiring mechanism		7.62 mm fixed	terminal block	30 pins head	ler with latch	7.62	2 mm fixed terminal b	lock	

Figure 6



Specification		105-40/11/0	TDS-00ATh	1 D5-00A11/J			
Digital Input	24VDC	Low Speed	24 points	36 points			
Digital	Re	lay		24 points	—		
Output	Output Transistor Lo		16 points		24 points		
N	/iring mecha	nism	7.62 mm fixed terminal block				
	Dimensio	1	Figure 1				

Figure 3

Thumbwheel Switch Module



Specification Model	FBs-32DGI
Refresh time for input	10mS max.
Input capability	8 words (32 digits/128 individual points)
Input method	1/8 duty multiplexing input scan
Wiring mechanism	30 pins header with latch
Dimension	Figure 6

Figure 1

Dimension

Right Side Expansion Module Specifications





16/7 Segment LED Display Modules

Specificat	ion	Model	FBs-7SG1	FBs-7SG2					
Dicology Decoding display		ling display	4 bits to represent to the second device of the sec	4 bits to represent a character.					
mode Non-decoding display			Each segment controlled by 1 individual bit, one 7 segment digits segments (EX: character and nun	s needs 8 bits to control (including decimal), displayable any set of nber display) or each LED display					
Display number of character (points)		of character	1 channel, 7 segment 8 words / 16 segment 4 words or 64 points individual LED	2 channels, 7 segment 16 words/ 16 segment 8 words or 128 points individual LED					
Refr	esh time fo	or display	10mS	max.					
	Drivii	ng current	40mA / s	segment					
spe E	Displ	ay method	1~8 duty multi	1~8 duty multiplexing display					
Dd	Driving	Low voltage	5VDC (can be 10% up)						
rivin	voltage	High voltage	7.5V, 10V, 12.5V select	table (can be 10% up)					
g	Fine tur	ne of voltage drop	0.6V, 1.2V, 1.8V selectable						
Over vo	ltage drivii	ng indication	Each channel has individual Over Voltage (O.V.) dr	iving LED indication (should be under Test Mode)					
le	solation m	ethod	Transformer (power) and optical (s	signal) isolation, 500VAC, 1 minute					
Power consumption		Imption	24VDC-15%/+20%, static consumption is 2W max.,	, dynamic current is increased according to display					
W	iring mech	nanism	16 pins flat cable, 2.54	mm header connector					
	Dimensi	on	Figu	ire 4					



Temperature Measurement Modules

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Specificatio Number of input points 2 points 6 points 16 points 6 points 16 points 6 points Thermocouple Sensor: Sensor type and J (-200~1200°C) E (-190~1000°C) 3-wire RTD sensor (JIS or DIN) NTC sensor K (-190~1300°C) T (-190~380°C) Pt100(-200~850°C) 10 KΩ at 25°C, B temperature measurement R (0~1800°C) B (350~1800°C) Pt1000(-200~600°C) optional -20~100°C range S (0~1700°C) N (-200~1000°C) Temperature compensation Built-in cold junction compensation Resolution 0.1°C Temperature refresh time 1 or 2 seconds 2 or 4 seconds 3 or 6 seconds 1 or 2 seconds 2 or 4 seconds 2 or 4 seconds **Overall Precision** ± (1%+1°C) ±1% of full scale at 25°C ±1% Transformer(power) and optical(signal) isolation, 500VAC, Transformer(power) and optical(signal) isolation, 500VAC, Isolation method 1 minute, isolation between each channel 1 minute, no isolation between each channel Power consumption 24VDC -15%/+20%, 2W max. Wiring mechanism 3.81 mm european terminal block 7.62 mm fixed terminal block Dimension Figure 4 Figure 4 Figure 1 Figure 4 Figure 1



Right/Left Side Expansion Module Specifications

Al+Temperature	
Measurement	
Combo Modules	





Combo Modules		
Specification Model	FBs-2A4TC	FBs-2A4RTD
Analog input (AI) points	2 points	/ 14-bit
Temperature measurement input points	4 points (thermocouple)	4 points (RTD)
Analog input specification	Same as FBs-6AD	Same as FBs-6AD
Temperature input specification	Same as FBs-6TC	Same as FBs-6RTD
Power consumption	24VDC-15%/+2	0%, 2W max.
Wiring mechanism	7.62 mm fixed terminal block	
Dimension	Figure 4	

Load Cell Module

FBs-1LC	Specification Model
1 channel	Number of channel
16-bit (including sign bit)	Resolution
1 IR (input register) and 8 points DO	Occupied I/O points
5/10/25/30/60/80 Hz optional	Conversion Rate
0.01% full scale @25 ℃	Non-linearity degree
0.2 μV/ °C	Zero drift
10 ppm/ °C	Gain drift
5V, maximum load is 250Ω	Excitation voltage
2mV/V, 5mV/V, 10mV/V, 20mV/V	Level of sensitivity
Moving averages	Filters
Transformer (power) and optical (signal) isolation, 500VAC, 1 minute	Isolation method
24VDC, -15%/+20%, 2W	Power consumption
7.62 mm fixed terminal block	Wiring mechanism
Figure 4	Dimension

Left Side Expansion Module Specifications

Voice Module



Potential Meter Module

Specification Model	FBs-4PT
Number of channel	4 channels
Resolution	14 or 12 bits
Occupied I/O points	4 IR (input registers) and 1 unused OR (output register)
Conversion time	Conversion once for each scan
Accuracy	±1%
Potential meter impedance	1Κ~10ΚΩ
Voltage Input Range	0~10V
Potential meter voltage	10V
Filters	Moving averages
Isolation method	Transformer (power) and optical (signal) isolation, 500VAC, 1 minute
Power consumption	24VDC, -15%/+20%, 2W
Wiring mechanism	7.62 mm fixed terminal block
Dimension	Figure 4

General Communicatio Boards/Modules	on 🧯 📃	ĝ ĝ—	<u>t</u> c =	1.1	<u>د ۋ</u> =
Specification Model	FBs-CB2	FBs-CB22	FBs-CB5	FBs-CB55	FBs-CB25
RS232 Port	1 port (Port2)	2 ports (Port1, Port 2)	-	—	1 port (Port1)
RS485 Port	—	—	1 port (Port2)	2 ports (Port1, Port 2)	1 port (Port2)
Indicators	Each Port has its own TX, RX LED indicators				
Wiring mechanism	DB9F DB9F 3 pins spring terminal DB9F, 3 pins spr		DB9F, 3 pins spring terminal		
Installation position			Expansion slot of main unit		

(Continue)			.
Specification Model	FBs-CM22	FBs-CM55	FBs-CM25
RS232 Port	2 ports (Port3, Port4)	_	1 port (Port3)
RS485 Port	—	2 ports (Port3, Port4)	1 port (Port4)
Indicators		Each Port has its own TX, RX LED indicators	
Wiring mechanism	DB9F	3 pins spring terminal	DB9F, 3 pins spring terminal
Installation position		Figure 5	

Left Side Expansion Module Specifications

Ethernet Communicat Boards/Modules	tion	F 3 =		.
Specification Model	FBs-CBEH	FBs-CBE	FBs-CM25E	FBs-CM55E
Network interface	10/100 Base T		10 Base T	
Network protocol		TCP/UDP/IF	P, ICMP, ARP	
Application protocol	FATEK client and server mode, Modbus-TCP client or server mode	lient and server mode, FATEK client and server mode, Modbus-TCP server mode		
PLC interface	Port1, Port2		Port4	
PLC communication speed	307.2 Kbps 115.2 Kbps		9.6K / 19.2K / 38.4K / 57.6K / 115.2Kbps / 230.4Kbps	
Expansion communication interface	N/A		RS232 (Port3), RS485 (Port4)	RS485 (Port3, Port4)
Application IP port number	FATEK port number 500, Modbus-TCP 502 or customized			
Security protection	IP based access control			
Indicators	Internet RX, TX, LINK LEDs indicators			
Wiring mechanism	RJ-45		DB9F, spring terminal block 4-pin x1, 3-pin x1	Spring terminal block 4-pin x1, 3-pin x1
Dimension (Installation position)	Expansion slot of main unit		Figu	ire 5

CANopen[®] Communication Board



Specification	FBs-CBCAN	
Communication standard	CAN 2.0A CANopen	
Network topology	3-Phase fieldbus	
Communication speed	10K / 20K / 50K / 125K / 250K / 500K / 1Mbps	
Maximum number of connection station	127 stations	
Method of sending signal	Event or cyclic transmission	
Isolation method	Optical (signal) isolation, 500VAC, 1 minute	
Number of PDO communication	RXPDO-10, TXPDO-10 total up to 80 registers	
Number of SDO channels	Client -1, Server-1	
Error control	Heartbeat	
Wiring mechanism	3-pin spring terminal block	
ID setup method	Same as PLC station number or setup by software	
Working mode	Master or slave dual modes	
Installation position	Expansion slot of main unit	

ZigBee[™] Communication Modules



GSM Communication Module



Specification Model	FBs-CMGSM	
Function	SMS, GPRS, and dial up data transfer (CSD), and etc	
Frequencies	850/900/1800/1900MHz	
RF power	2W	
Communication interface	Port3	
Dimension	Figure 5	





Left Side Expansion Module Specifications

AIO Boards		<u>0</u> "	<u>0</u> "
Specification Model	FBs-B2DA	FBs-B4AD	FBs-B2A1D
Input point	—	4 points	2 points
Output point	2 points	—	1 point
Input / Output value	0~16380 (14-bit representation, valid 12-bit)		
Input / Output polar	Unipolar		
Input / Output counting range	0~10V		
Conversion time	Conversion once for each scan		
Accuracy	±1%		
Isolation method	Non-isolation		
Wiring mechanism	3.81 mm European terminal block		
Installation position	The expansion slot of main unit		

3-Axis Motion Control Module

Specification Model	FBs-30GM
Number of DIO points	14 points (8 inputs/6 outputs)
Program capacity	16M Bytes
Data Register	20K Words
High speed pulse Input	200KHz X,Y,Z 3-Axis A/B differential signal input
High speed pulse Output	500KHz X,Y,Z 3-Axis A/B differential signal output
Manual input	A/B differential signal input
Communication port	RS485 x1, Ethernet x1
Built-in power supply	SPW24-AC/D12/D24
Wiring mechanism	7.62mm detachable terminal block
Dimension	Figure 1

Precision Load Cell Module

Simple HMI

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	and the second second
-	-

Specification Model	FBs-1HLC
Number of channels	1 channel
Resolution	0.10 µV/1D (24-bit AD)
Filters	Digital filter, sampling rate 6.25~120Hz
Measurement range	-1~39mV
Sensor voltage	5VDC±5%
No. of sensor connections	350Ω sensor x 8
Isolation Method	Transformer (power) and optical (signal) isolation, 500VAC 1 minute
Power consumption	24VDC, -15%/+20%, 2W
Wiring mechanism	7.62mm fixed terminal block
Dimension	Figure 4
Isolation Method Power consumption Wiring mechanism Dimension	Transformer (power) and optical (signal) isolation, 500V 1 minute 24VDC, -15%/+20%, 2W 7.62mm fixed terminal block Figure 4

Handheld Programming Panel

Specification Model	FP-08
Main function	Program editor (Mnemonic language), status monitoring, parameters setup, program/parameter import and recording, etc.
Max. of power consumption	5V/100mA
Keyboard	48 silicon rubber keys
Display	Two rows 16 characters, dot matrix LCD display, with LED backlight
Recording device	FBs-PACK read/write
Communication port	RS232 serial communication port
Connectors	DB9F, Mini-DIN
Dimension	Figure 7











Specific	ation Model	FBs-DAP-B/BR	FBs-DAP-C/CR	FBs-PEP/PEPR	FBs-BDAP	FBs-BPEP
	Display	Two rows 16-character, dot r backlig	matrix LCD display, with LED ghting	128x96 points white light OLED	128segments fixed-pattern LCD	128x64 points white light OLED
Key pads		20 buttons (4x	5) membrane	8 operation keys (rubber)	6 operation keys (rubber)	6 operation keys(rubber)
Maxim	um of consumption power	24V, 48mA	5V, 120mA	5V, 100mA	5V, 100mA	5V, 100mA
Co	Electric	RS485	RS232	RS232	Port1, CMOS	Port1, CMOS
nmunic interfac	Mechanism	5 pins European detachable terminal block	DB9M	Mini-DIN	_	—
ce	Number of linked station	Max. 16 stations	Single unit	Single unit	—	—
	General features		Timer, counter, register, relay, access of contact in PLC			
Special features		Alarm, information display, a ke	ion display, and user definable special hot keys Station number setup, run/stop, Control Calendar*		* display and setup	
Card access features (RFID card)		Available only in	y in –R models, with maximum distance of 6~12cm		_	_
Dimension (Installation position)		Fig	gure 8 Figure 9 Expansion s		ot of main unit	

* The PLC main unit must be of calendar built-in type

Peripheral and Accessory Specifications

RFID Card	
Model	CARD-H
Operated frequency	13.56MHz
Memory	64-bit with Cyclic Redundancy Check (CRC) on data
Working temperature	-25~50 (ISO7810)
Power source	Powered by RF
Receivable distance	6~12cm
Writable times	At least 10000 times

PWMDA	PWMEA octo
Model Specification	PWMDA
Output range	0~10V
Output value	0~1000
Resolution	10mV(10V/1000)
Output impedance	1ΚΩ
Min. load(≥10V)	5.2ΚΩ
D/A conversion time	<50mS

Memory Pack		USB-RS232 Converte	er Cable
Specification	FBs-PACK	Specification	
Memory	1M bits FLASH ROM		Standa
Memory capacity	20K Words program + 20K Words data	Features	connecte
Write protection	DIP switch ON/OFF protection		U

	opeenication	
ASH ROM		Standard USB AM connector to BS232 MD4M
n + 20K Words data	Features	connector (used in standard PC USB to FBs main
OFF protection		unit Port 0 K5252), length 180cm
		\sim

Communication Cable	<i>µ</i> O∖	O	ζΟ,	\mathcal{O}
Specification Model	FBs-232P0-9F-150	FBs-232P0-9M-400	FBs-232P0-MD-200	FBs-232P0-MDR-200
Features	Dedicated communication cable for FBs main unit Port 0 (RS232) to DB9F connector, length 150cm	Dedicated communication cable for FBs main unit Port 0 (RS232) to DB9M connector, length 400cm	Dedicated communication cable for FBs main unit Port 0 (RS232) to FBs-PEP/PEPR Mini-DIN male connector, length 200cm	Dedicated communication cable for FBs main unit port 0 (R5232) to FBs-PEP/PEPR 90 Mini-DIN male connector, length 200cm

High Density DIO Connection Cable		16/7 Segment Display	LED	RRR R
Specification Model	HD30-22AWG-200		DBAN.8-nR	DBAN2.3-nR
Features	22AWG I/O cable with 30 pins Socket, length 200 (for FBs-24X, 24YT/J and 32DGI)	Features	0.8" 4-digit 16-segment LED display, , n means R(Red) 16-segment LED characters display installed, can be 1~4	2.3" 4-digit 16-segment LED display, n means R(Red) 16-segment LED characters display installed, can be 1~4

(Continue)		8888888	<i>8.8.8.8</i> .
DB.56-nR	DB.8-nR	DB2.3-nR	DB4.0-nR
0.56" 8-digit 7-segment display, n means R(Red) 7-segment LED characters display installed, can be 1~8	0.8" 8-digit 7-segment display, n means R(Red) 7-segment LED characters display installed, can be 1~8	2.3" 8-digit 7-segment display, n means R(Red) 7-segment LED characters display installed, can be 1~8	4.0" 4-digit 7-segment display, n means R(Red) 7-segment LED characters display installed, can be 1~4



Training Box

Specification	ecification Model		FBs-TB0X		
Case		Aluminum suitcase. Dimension is 46x32x16cm. Top cover and box body can be separated.			
Pov	ver supply	100~240VAC / 2A fuse / power switch with indicator			
	PLC		FBs-24MCT(transistor output)+FBs-CM25E(Ethernet communication module)		
	Programmer		FP-08 handheld programming panel, can develop program, monitor (optional)		
Programming tool	Winproladder		Instructor site: WinProladder with ' teaching assistant' utility		
	Programming Software		Student site: WinProladder		
	Built-in	Port0	RS 232 Mini-DIN		
	Communication	Port1			
Communication	board(CB) (optional)	Port2	RS232 or RS485 selectable, directly mounted on FBs-24MCT main unit		
interface	FBs-CM25E	Port3	RS232, standard DB-9F connector		
		Port4	RS485, 3-pin European terminal block		
		(Port4)	Ethernet 10 Base T, IEEE 802.3 standard. Use port4 to interface PLC main unit		
Inpu	ut interface		Banana terminal and simulation switch with automatic and manual reset functions		
Output interface		Banana terminal, 10 points. Transistor output(Y0~Y9). All outputs buffer with discrete relay before come to terminal. Y0 and Y1 also provide a direct output terminal for high-speed pulse output (HSPSO) application.			
Expansion	module (optional)	Secured by DIN Rail, 12.5cm wide slot, can accommodate three 4cm thin modules or other modules with equivalent width			
	Display module		4 digits 7-segment display module, attached with BCD decoding circuit		
	Thumbwheel switch		4 digits BCD thumbwheel switch module		
Application	Keyboard module		4 x 4 matrix keyboard module (Wiring coordinate with convenient instruction)		
peripheral	Encoder		Power supply 24VDC, 200P/R, open collector, A/B phase		
	Stepping motor		Pules/DIR control, 200P/R		
	LED display	10 c	f 10mmØ high-brightness LED (in red, yellow, and green), driven individually by Y0 to Y9		
Number of linked stations		Maximum 254 stations (1 station for instructor, 253 stations for student)			

Features:

- It contains the basic items required by PLC digital I/O training, such as the FBs-24MCT advanced main unit, the FBs-CM25E Ethernet module, digital input socket, simulated switches, and digital output socket.
- The built-in RS232, RS485 and the Ethernet three ports (can be expanded to five with communication boards) not only enable the teacher's computer to connect with the training kits of all students to conduct networking on-line teaching such as loading, monitoring, modifying, and storing, but also can be used in advanced course such as computer connection, intelligent ASCII peripherals as well.



- A special designed software "WinProladder teaching assistant" can let instructor download or upload ladder program to or from the PLC of the whole class or individual through computer.
- PLC output is isolated by the Relay with socket and fuse and then output to terminal. These isolations can prevent PLC from damaging caused by incorrect wiring and easy for repair and replacement.



Figure 1











Figure 4



Figure 5



ନ

7.5



Dimensions



Figure 8



Figure 9



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