

Right Side Expansion Module Specifications

16/7 Segment LED Display Modules



Specification		Model	FBS-7SG1	FBS-7SG2	
Display mode	Decoding display	4 bits to represent a character. It can display 16 kinds of pre-decoded character including 0~9, -, E, H, c, t and blank			
	Non-decoding display	Each segment controlled by 1 individual bit, one 7 segment digits needs 8 bits to control (including decimal), displayable any set of segments (EX: character and number display) or each LED display			
Display number of character (points)			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	
Refresh time for display			10mS max.		
LED driving specification	Driving current		40mA / segment		
	Display method		1~8 duty multiplexing display		
	Driving voltage	Low voltage		5VDC (can be 10% up)	
		High voltage		7.5V, 10V, 12.5V selectable (can be 10% up)	
	Fine tune of voltage drop		0.6V, 1.2V, 1.8V selectable		
Over voltage driving indication			Each channel has individual Over Voltage (O.V.) driving LED indication (should be under Test Mode)		
Isolation method			Transformer (power) and optical (signal) isolation, 500VAC, 1 minute		
Power consumption			24VDC -15%/+20%, static consumption is 2W max., dynamic current is increased according to display		
Wiring mechanism			16 pins flat cable, 2.54mm header connector		
Dimension			Figure 4		



AIO Module

Specification		Model	FBS-6AD	FBS-4A2D	FBS-2DA	FBS-4DA
Input point			6 points	4 points	—	—
Output point			—	2 points	2 points	4 points
Input/Output value			-8192~8191 or 0~16383 (14-bit)			
Input/output Signal range	Bipolar		Voltage: -10~10V or -5~5V Current: -20~20mA or -10~10mA			
	Unipolar		Voltage: 0~10V or 0~5V Current: 0~20mA or 0~10mA			
Maximum resolution			Voltage: 0.3mV (5V/16384) Current: 0.61μA (10mA/16384)			
Accuracy			± 1%			
Conversion time			Conversion once for each scan			
Maximum input signal			Input voltage: ±15V Input current: ±30mA		—	
Allowable load range			—		Output voltage: 500Ω~1MΩ Output current: 0~500Ω	
Input impedance			Input voltage: 63.2KΩ Input current: 250Ω		—	
Isolation method			Transformer(power) and optical(signal) isolation, 500VAC, 1 minute, no isolation between each channel			
Power consumption			24VDC -15%/+20%, 3.2W max.			
Wiring mechanism			7.62 mm fixed terminal block			
Dimension			Figure 4			



Temperature Measurement Modules

Specification		Model	FBS-2TC	FBS-6TC	FBS-16TC	FBS-6RTD	FBS-16RTD	FBS-6NTC	
Number of input points			2 points	6 points	16 points	6 points	16 points	6 points	
Sensor type and temperature measurement range			Thermocouple Sensor: J (-200~1200°C) E (-190~1000°C) K (-190~1300°C) T (-190~380°C) R (0~1800°C) B (350~1800°C) S (0~1700°C) N (-200~1000°C)			3-wire RTD sensor (JIS or DIN) Pt100(-200~850°C) Pt1000(-200~600°C)		NTC sensor 10 KΩ at 25°C, B optional -20~100°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%		±1% of full scale at 25°C	
Isolation method			Transformer(power) and optical(signal) isolation, 500VAC, 1 minute, isolation between each channel			Transformer(power) and optical(signal) isolation, 500VAC, 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 1	Figure 4	Figure 1	Figure 4