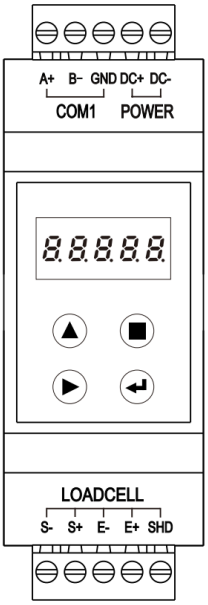
DJB-M1 LED Weighing Digital Junction Box



Keypad Operation		
【■】	Menu Operation	Exit
	Main Interface	Scale Parameters Set
【▶】	Menu Operation	Cursor shifts right Display the previous option
	Main Interface	Communication Parameters Set
【▲】	Short Press	Digit input: +1 (0~9 loop) Display the next option
	Main Interface	Unused
【↵】	Menu Operation	Enter / Save
	Main Interface	**Long Press 2s:** Calibration

1. Applications

☐ Transform the analog signal from loadcell to digital signal.
☐ For remote host-slave weighing system.

2. Technical Specifications

☐ CPU System
- ✧ 32-bit ARM CPU with 48MHz clock & high arithmetic speed.
- ✧ EMC design with high anti-jam for industrial environment.

☐ Display & Keypad
- ✧ 5 Red LED digital tubes for weight display.
- ✧ 4-key keypad for parameter setting&system calibration.

☐ Loadcell Interface
- ✧ Excitation Voltage / Max. Current: DC5V/200mA.
- ✧ Signal Input Range: ±19.5mV.
- ✧ Output Sensitivity of Loadcell: 1.0~3.5mV/V.
- ✧ 24-bit ∑-Δ ADC with resolution 1/1,000,000.
- ✧ Sampling Frequency: 10Hz, 40Hz, 640Hz[default], 1280Hz.
- ✧ Special anti-vibration digital filtering algorithm.
- ✧ Zero Drift: ±0.2μV/℃ RTI (Relative to Input).
- ✧ Gain Drift: ±5ppm/℃.
- ✧ Non-linearity: 0.005%FS.

☐ Digital Communication Interface
- ✧ Configuration: RS485.
- ✧ Communication Protocol: Host-slave Modbus RTU.
- ✧ Optional Baud Rate: 9600[default], 19200, 115200bps.
- ✧ Parity Check: None.

☐ Operating Specification
- ✧ Power Supply: DC24V±20%, Max. 2W.
- ✧ Outline Size: 35.6×110×58mm [W×H×D].
- ✧ Guide rail type installation.
- ✧ Guide Rail Groove Size: 35×1.6mm [W×D].
- ✧ Operating Temperature: -25℃ to +45℃.
- ✧ Storage Temperature: -30℃ to +60℃.
- ✧ Relative Humidity: Max. 85%RH.
- ✧ Weight: Approx. 100g.
- ✧ Protection Level: IP50.

3. Communication Function

☐ The parameters can be set and saved in the EEPROM of the Digital Junction Box.
☐ Zero Calibration and Load Calibration via commands.
☐ Data Calibration via setting loadcell's Sensitivity and Capacity.
☐ The actual weight value can be read after calibration.

4. Loadcell Port LOADCELL

☐ S-: mV Signal Input -.
☐ S+: mV Signal Input +.
☐ E-: Excitation Voltage -.
☐ E+: Excitation Voltage + [DC5V].
☐ SHD: Shield Ground.

5. Communication Ports COM1

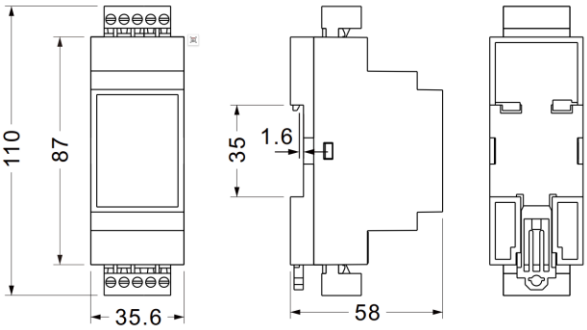
☐ GND: Signal Ground.
☐ B-: RS485 Data -.
☐ A+: RS485 Data +.

6. Power Input Port POWER

☐ DC-: DC Input -.
☐ DC+: DC Input + [DC24V].

7. LED Indicators on Mainboard

☐ Red LED [POWER] ON: Power Supply Normal.
☐ Red LED [ALR] Blinking: ADC Fault.
☐ Green LED [RUN] ON: Software Normal.
☐ Green LED [RUN] Blinking: Communicating.



No.	Sign	Range	Default	Description	Register
Scale Parameters [Press key【■】]					
01.	Un	0	0	**Unused**	41301
02.	Ut	0~3	1	**Weight Unit** *0: None; 1: kg; 2: t; 3: g*	41303
03.	dt	0~3	ooo.o	**Decimal Point Position** *0: oooo; 1: ooo.o; 2: oo.oo; 3: o.ooo; 4: o.oooo*	41305
04.	dV	1~500	1	**Scale Division** *1, 2, 5, 10, 20, 50, 100, 200, 500*	41307
05.	Sr	0~999	2	**Stability Range** Set value = 0: No 'Stability Judging'. Set value > 0: Weight Variance per 'Stability Time' being in 'Stability Range' means 'Weight is stable'.	41309
06.	St	0.1~9.9	0.5	**Stability Time** [s]	41311
07.	Zr	0~9999	0	**Zero Auto-tracking Limit** Set value = 0: No 'Zero Auto-tracking'. Set value > 0: Only after weight being stable and the zero variation in 'Zero Auto-tracking Time' is within the range of 'Zero Auto-tracking Limit', the result of Zero Auto-tracking will be valid.	41313
08.	Zt	0.1~9.9	1.0	**Zero Auto-tracking Time** [s]	41315
09.	dZ	0~99	0	**Zero Display Limit** When the absolute value of weight is within this range, the weight display value will return to zero.	41317
10.	Fc	0~3	2	**Sampling Frequency** *0: 10Hz; 1: 40Hz; 2: 640Hz; 3: 1280Hz*	41319
11.	Ft	0~9	5	**Anti-vibration Digital Filter1** *0: None; 1: 11.2Hz; 2: 8Hz; 3: 5.6Hz; 4: 4.0Hz* *5: 2.8Hz; 6: 2.0Hz; 7: 1.4Hz; 8: 1.0Hz; 9: 0.7Hz*	41321
12.	Sb	0~10	10	**Weight Display Smooth Filter2** The bigger set value of Filter2 will make the weight display value more stable with slower response speed.	41323
Communication Parameters [Press key【►】]					
21.	Ad	1~99	1	**Communication Address**	41203
22.	bP	0~2	0	**COM1[RS485] Baud Rate** *0: 9600bps; 1: 19200bps; 2: 1152d[115200]bps*	41205
23.	dF	0~3	0	**Modbus Data Format** [See 'Communication Protocol']	41207
24.	E1	1	1	**COM1 Communication Mode** *1: Modbus RTU [Host-slave]*	41209

System Calibration & Adjustment [Long Press key【↵】for 2s]		
Menu	Function	Operation Process
-Zr-	Zero Calibration	Press【↵】→Display AD Value→Press【↵】to save.
-Ld-	Load Calibration	Press【↵】→Input 'Calibrating Weight' [1~99999]→Press【↵】to save.
-tS-	Reliability Test	Press【↵】to test the LED digital tubes.
-AZ-	Unused	Unused.
-AF-	Unused	Unused.
-rS-	RAM Reset	Press【↵】to reset the RAM parameters to factory defaults.
-VE-	Version No.	Press【↵】to query Version No.
-PS-	Password Input	Special for manufacturer.