

EM301

Explosion-proof weight Indicator and controller

EM301 is an industrial process controlling explosion-proof weight indicator and controller, using flameproof and intrinsic safety design. It can be used in dynamic weighing. Equipped with a variety of PLC bus interfaces, also provides humanized HMI interface, it is convenient for the special weighing applications.

Key features

- Safety grid not required**
 - load cell interface intrinsic safety loop design.
- Color screen display**
 - Certification accuracy: 6000e
 - 4.3 "full color screen
- Square structure design**
 - IIC explosion-proof rating.
 - High utilization of internal space, easy installation and maintenance, 26-Keypads design, good operation experience
- Common Communication interface**
 - Standard isolated RS232 and isolated RS485; CAN, LAN Optional Analog output, 4-20mA/0-10V; discrete I/O port, 8 inputs and 8 outputs.
- PLC fieldbus interface**
 - Profibus-DP, CC-Link, Profinet, EtherNet/IP, Modbus-RTU, Modbus-TCP
- Typical application programming**
 - basic weighing, check-weigh, filling/dosing, lose-in-weigh application.



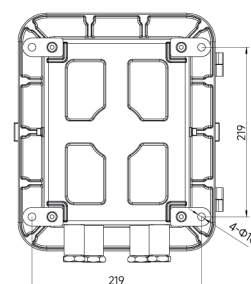
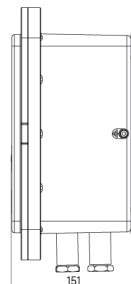
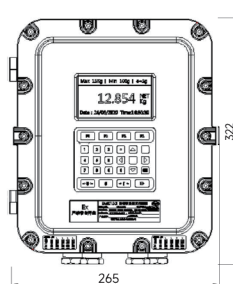
Dimensions

Aluminum-casted

Model No.

EM301-0-0

EM301-1-0



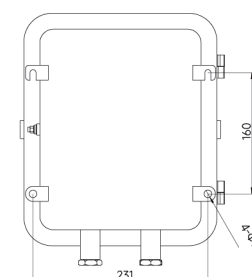
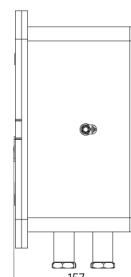
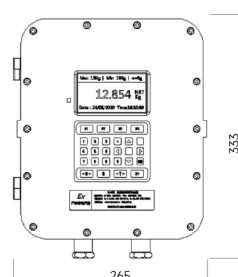
Unit: mm

Stainless steel

Model No.

EM301-0-2

EM301-1-2



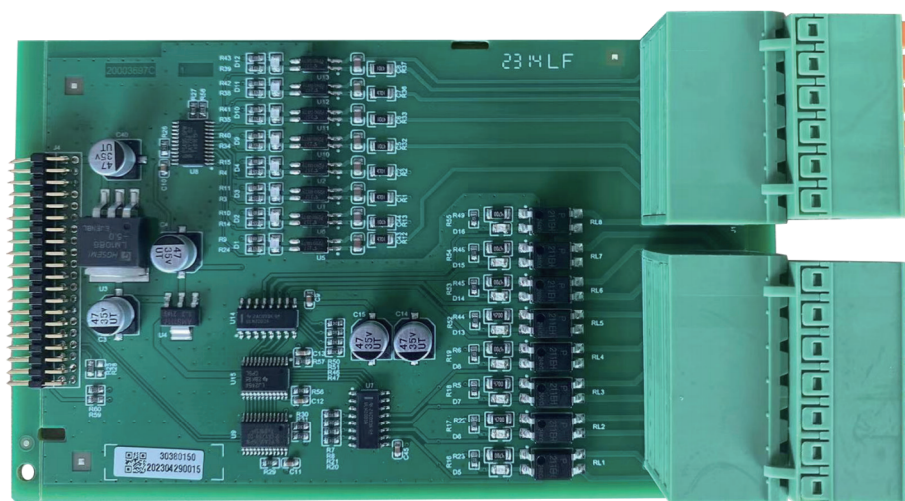
Specifications

Product model	EM301-0-2		EM301-0-0		EM301-1-2		EM301-1-0	
Materials	stainless steel (0Cr18Ni9)		cast aluminium (ADC12)		stainless steel (0Cr18Ni9)		cast aluminium (ADC12)	
Cavity size (LxWxH)mm	259x207x132		226x175x115		259x207x132		226x175x115	
Weight (Kg)	24		12		25		13	
Explosion-proof sign	Ex db ib [ib Gb] IIB+H2 T6 Gb; Ex ib tb [ib Db] IIIC T80°C Db				Ex db ib [ib Gb] IIC T6 Gb; Ex ib tb [ib Db] IIIC T80°C Db			
AC Power	85-264VAC / 18-36VDC							
Protection degree	IP68(2m/2h)							
Operating temperature	-20 ~ +60							
Service entrance	G3/8" M16x1.5		G1/2" M20x1.5		G3/4" M25x1.5			
Applicable cable diameter	Φ4-Φ9		Φ6-Φ12		Φ6-Φ13			
Intrinsic safety parameter	Loop	Uo(V)	Io(mA)	Po(mW)	Co(μF)	Lo(mH)		
	+EXC	714	342	397	13.5	0.7		
	+SEN	714	342	397	13.5	0.7		
	+SIG	714	342	397	13.5	0.7		
	-SIG	714	342	397	13.5	0.7		
	-SEN	714	342	397	13.5	0.7		
	-EXC	714	342	397	13.5	0.7		
Display screen	4.3 " TFT full color screen							
Number of verification scale intervals (e)	6000							
Number of scale intervals for indicator (d)	100000							
Number of sensors	Up to 6 350 ohm load cells (2 or 3mV/V)							
AD sampling rate	1000Hz							
Load cell Excitation	5VDC							
Minimum sensitivity	0.5 μV/e							
Accuracy class	III							
KeyPad	4 key top bar button; Film keyboard (expandable up to 32 keys)							
Communication protocol	Command output, Continuous output, Modbus RTU, Modbus TCP PROFINET, EtherNet/IP							
Calibration method	Weight calibration; Weight-free calibration; Remote calibration							
Scale	1							
Capacity	1-500,000 (default 60)							
Increment size	0.0001/0.0002/0.0005							
	0.001/0.002/0.005							
	0.01/0.02/0.05 (default 0.01)							
	0.1/0.2/0.5							
	1/2/5							
	10/20/50/100							
Serial ports	1 way RS485 (isolation)							
	1 way RS232 (isolation)							
	1 way CAN (isolation)							
	1 way LAN							
Baud rate	1200, 2400, 4800, 9600 (default) ,19200, 38400, 57600, 115200							
Analog quantity ※	1 way 4-20mA or 0-10v							
8DIO Interface expansion board ※	8 inputs (optocoupler isolation) /8 outputs (relays)							
8DIO Interface expansion board ※	8 inputs (optocoupler isolation) /8 outputs (transistors)							
Industrial bus option board ※	PROFINET, EtherNet/IP, Profibus-DP, CC-Link							

Note:The list marked with ※ is optional, customers need to purchase separately.

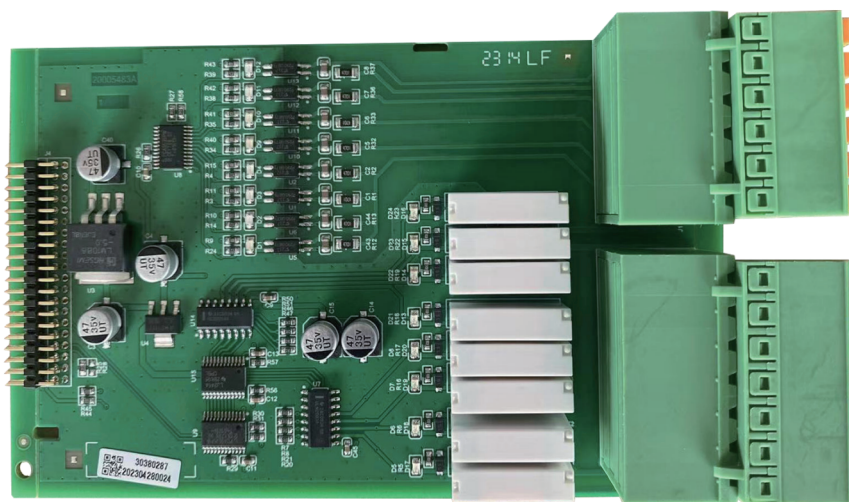
Optional board

EM301 8DIO board



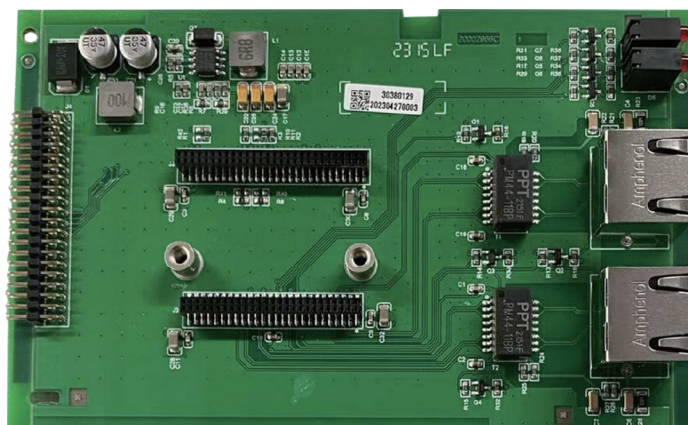
8DIO board	Feature	Terminal mark	Terminal function description	Electrical specification
Input/output	Extended input/output signal interface	IN_COM	Extended input Com	Input point mode: Input point 1-8 is active input, input point common source mode Input voltage range: 5~30VDC Input current range: <10mA
		IN1	Extended input 1	
		IN2	Extended input 2	
		IN3	Extended input 3	
		IN4	Extended input 4	
		IN_COM	Extended input Com	
		IN_COM	Extended input Com	
		IN5	Extended input 5	
		IN6	Extended input 6	
		IN7	Extended input 7	
		IN8	Extended input 8	
		IN_COM	Extended input Com	
		OUT1	Extended output 1	Output point mode: Output points 1 and 5 are passive normally open outputs of solid-state relays. Output drive capacity: <30VDC 0.5A or <30VAC 0.5A Output points 2-4 and 6-8 are passive normally open outputs for solid-state relays Output drive capacity: <30VDC 0.5A or <30VAC 0.5A The maximum total output current is 2A The single-channel on-resistance is 0.25Ω
		OUT_COM1	OUT1 output terminal	
		OUT_COM	Extended output Com	
		OUT2	Extended output 2	
		OUT3	Extended output 3	
		OUT4	Extended output 4	
		OUT_COM	Extended output Com	
		OUT_COM5	OUT5 output terminal	
		OUT5	Extended output 5	
		OUT_COM	Extended output Com	
		OUT6	Extended output 6	
		OUT7	Extended output 7	
		OUT7	Extended output 8	
		OUT_COM	Extended output Com	

EM301 8DIO board



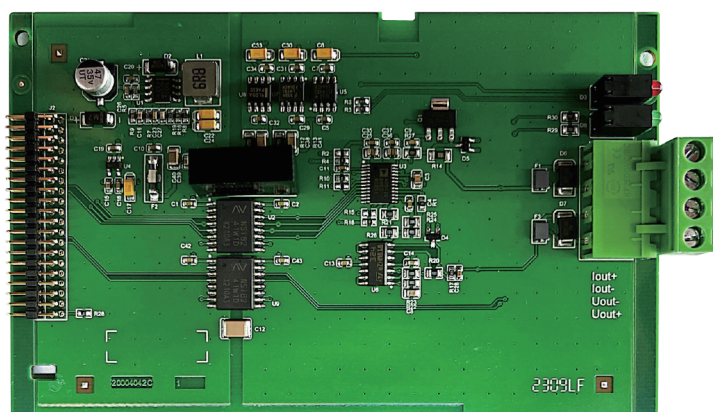
8RLY DIO board	Feature	Terminal mark	Port function description	Electrical specification
Input/output	Extended input/output signal interface	IN_COM	Extended input Com	Input point mode: Input point 1-8 is active input, input point common source mode Input voltage range: 5~30VDC Input current range: <10mA
		IN1	Extended input 1	
		IN2	Extended input 2	
		IN3	Extended input 3	
		IN4	Extended input 4	
		IN_COM	Extended input Com	
		IN_COM	Extended input Com	
		IN5	Extended input 5	
		IN6	Extended input 6	Output point mode: Output points 1 and 5 are passive normally open outputs of the relay, The output contact is a separate mode Output drive capacity: 5~24VDC 1A or 24~250VAC 1A Output points 2-4 and 6-8 are passive normally open contacts of the relay, and the output contacts are in a common source form The output driving capability is: 5~24VDC 1A or 24~250VAC 1A, The maximum total output current is 3A
		IN7	Extended input 7	
		IN8	Extended input 8	
		IN_COM	Extended input Com	
		OUT1	Extended output 1	
		OUT_COM1	OUT1 output terminal	
		OUT_COM	Extended output Com	
		OUT2	Extended output 2	
		OUT3	Extended output 3	
		OUT4	Extended output 4	
		OUT_COM	Extended output Com	
		OUT_COM5	OUT5 output terminal	
		OUT5	Extended output 5	
		OUT_COM	Extended output Com	
		OUT6	Extended output 6	
		OUT7	Extended output 7	
		OUT7	Extended output 8	
		OUT_COM	Extended output Com	

EM301 Profinet/EtherNet/IP board



Profinet board	Feature	Terminal mark	Port function description	Electrical performance
Network link	Communication	J1/J11	Follow Profinet protocol and Siemens PLC communication	Port rate: 10Mbps/100Mbps self-adaptation

EM301 Analog board



Analog board	Feature	Terminal mark	Terminal function description	Terminal function
Analog output	Voltage output	V0	Voltage output	Output range: 0-10V DC Load: $\geq 1k\Omega$
		VGND	Voltage output grounded	
	Current output	A0	Current output	Output range: 0-20mA DC Load: $\leq 500\Omega$
		AGND	Current output grounded	