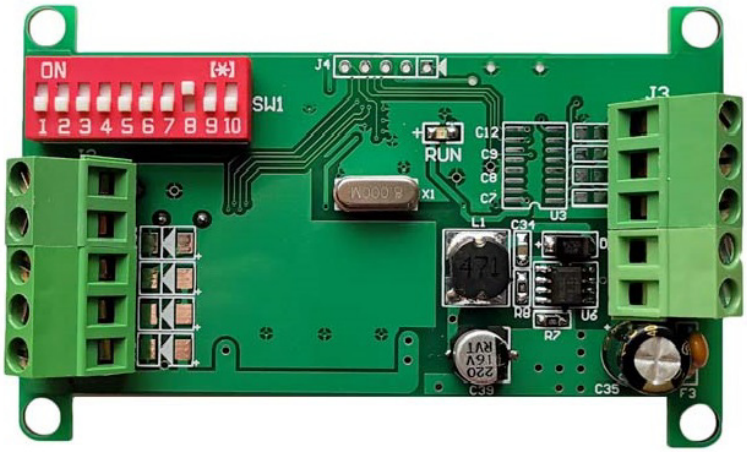
Giant521
Weighing Transmitter
User Manual



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Website

http://www.infwin.com

E-Mail

infwin@163.com

Telephone

+86-411-66831953, +86-4000-511-521

2 Introduction

Giant521 weighing transmitteris integrated with 1 independent weighing channel, serial communication port RS485 or RS232 (Modbus-RTU protocol),to achieve high speed data acquisition. It employs high speed precision AD convertor to achieve high resolution and wide dynamic range with low zero drift and temperature coefficient. It can be integrated with DCS,HMI,PLC and other control systems easily through its RS485 or RS232 interface using Modbus-RTU protocol. It can be used for hopper scale, platform balance, tensile testing machine, compression testing machine etc., and all kinds of testing system with strain gauge sensor.

- Single weighing channel with high accuracy conversion
- RS485 or RS232 interface with Modbus-RTU protocol
- Digital Filter and Anti-Vibration Filter
- Power down preservation for parameters
- Zero tracking and auto zero on start up
- Watchdog to guarantee the system stability
- Protected by Aluminum Die Casting Enclosure

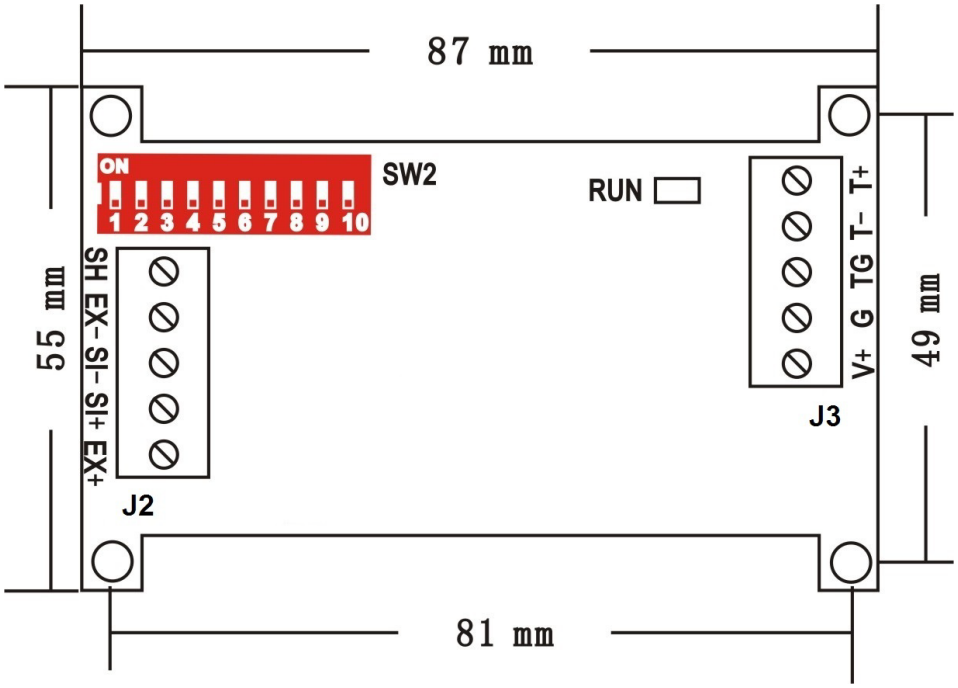
3 Technique Parameters

Parameters	
Power Supply	9-30VDC DC, 1W @ 24VDC
Weighing	Channel:Single weighing channel Sensor Type:4/6 wire strain gauge Excitation:+5V DC,60mA Max. for each channel Sampling rate: 100Hz/50Hz/25Hz/12.5Hz/6.25Hz Input range: ±30mV Resolution: 1/100000 Sensitivity:0.25uV/d Nonlinearity:±0.001％FS Temperature Drift:<±5ppm/℃
Display panel	None
RS-485 or RS232	TVS and Over Current protection Modbus-RTU protocol
Dimension	PCBA: 87*55*25 mm Aluminum Die Casting Enclosure:
Storage	-40~85℃,10%~95%
Operation	-10~45℃,10%~95%
Installation and IP ratings	PCBA: Screw fixing, IP00 Aluminum Die Casting Enclosure: Screw fixing, IP54

4 Dimension, Wiring and Ordering Information

4.1 Dimension

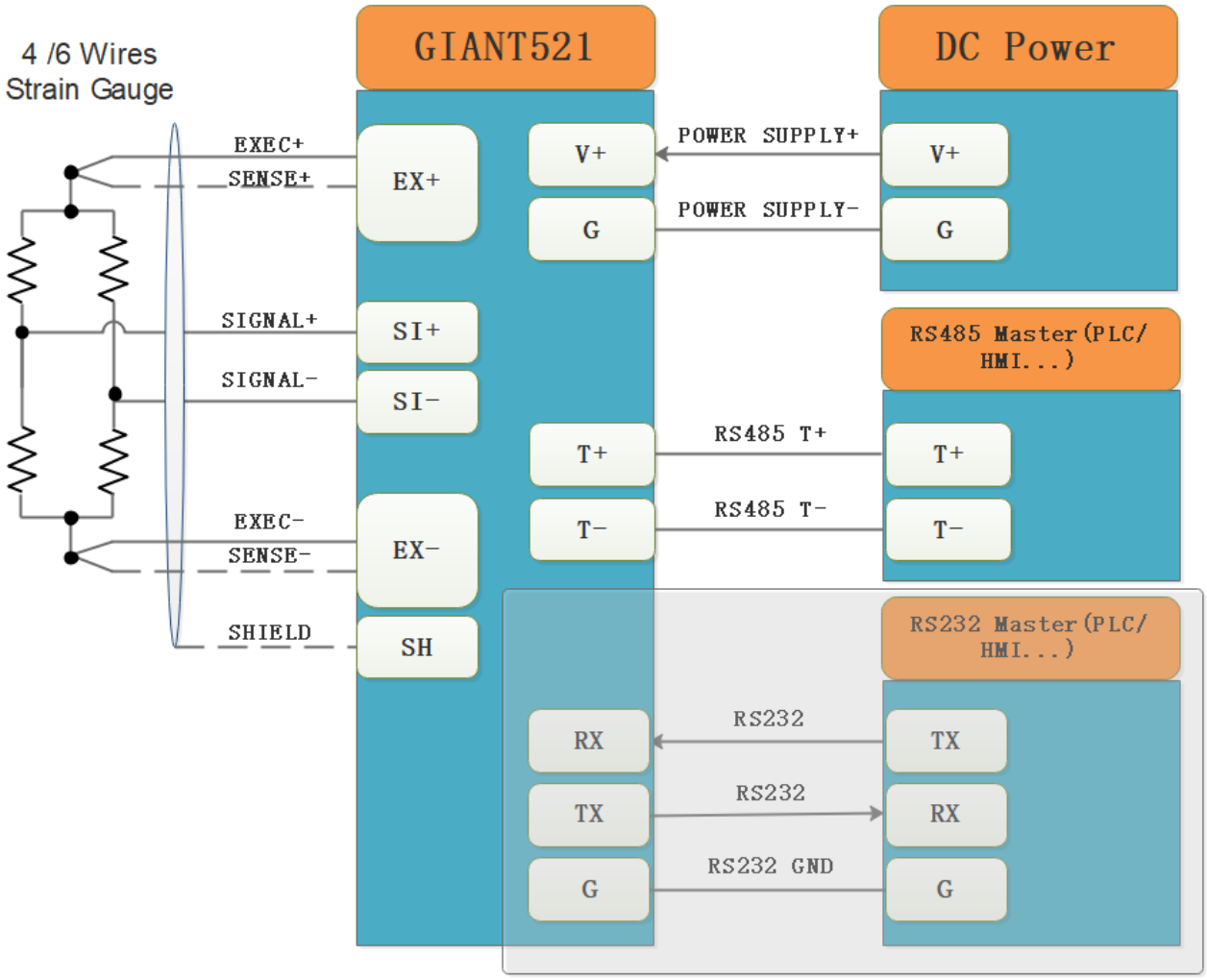
Length*Width*Height: 81*55*25 mm



4.2 Wiring

Connector Wiring	
Connector	**Comment**
J3 – T+	RS485 T+/A/RS485+ RS232 TXD(Connect to Master device's RXD)
J3 – T-	RS485 T-/B/RS485- RS232 RXD(Connect to Master device's TXD)
J3 – TG	RS232 GND
J3 – G	Power supply-
J3 – V+	Power supply+
J2 – EX+	Weighing channel - Sensor Excitation Output +
J2 – SI+	Weighing channel - Sensor Signal Iutput +

J2 – SI-	Weighing channel - Sensor Signal Iutput -
J2 – EX-	Weighing channel - Sensor Excitation Output -
J2 – SH	Weighing channel - Shield



4.2.1 Sensor Connection Considerations

The excitation voltage is 5V/60mA for each channel.

（1）The transmitter can accept 4/6 wires strain gauge sensor.

（2）The cable length of sensor should as short as possible and do not align with power cable.

（3）Sensor should be grounded properly to prevent damage to weighing system.

（4）Sensor wiring and connection should be placed well before calibration or there will be weighing error.

（5）Sensor cable should be properly connect with connector to prevent weighing error.

（6）Do not use excitation voltage on transmitter for other usage.

4.2.2 Run Indicator

LED Indicator	Comment
On	Running State
Flashing	Communicating
On/Offcycling when power on	System Error

4.2.3DIP Switch

DIP Switch	Comment
1-8	DIP 1~8 are used to set Modbus address, 8 bit binary code from 0 to 255.When it is on, the corresponding bit is set to 1, and when it's off, the bit is set to 0. For example: DIP1~8: Binary 00000001, Modbus address is 1 DIP1~8: Binary 00000011, Modbus address is 3 DIP1~8: Binary 10000000, Modbus address is 128 DIP1~8: Binary 11111111, Modbus address is 255 If DIP 1~8 set to all off (00000000), the Modbus address is up tointernal Modbus register(SLAVEADDR). Note: Please power up the transmitter if you change the address to take effective.
9,10	DIP 9&10 are used to set run mode. CONFIG MODE : DIP 9&10 = OFF ON RUN MODE : DIP 9&10 = Other State ALL RS485 communication parameters (Mosbus Slave Address, baudrate, parity, databits, stopbits) are set in internal register and can be saved when power down, the factory setting is ADDRESS=1, BAUDRATE=9600bps,PARITY=NONE, DATABITS=8bits, STOPBITS=1bit; Sometimes you may FORGET the communication settings and can not communicate with transmitter, In this case, you can set switch to CONFIG mode, then power up the transmitter, and it will start-up with a fixed communication settings(we call it CONFIG mode) ADDRESS=0, BAUDRATE=9600bps,PARITY=NONE, DATABITS=8bits,

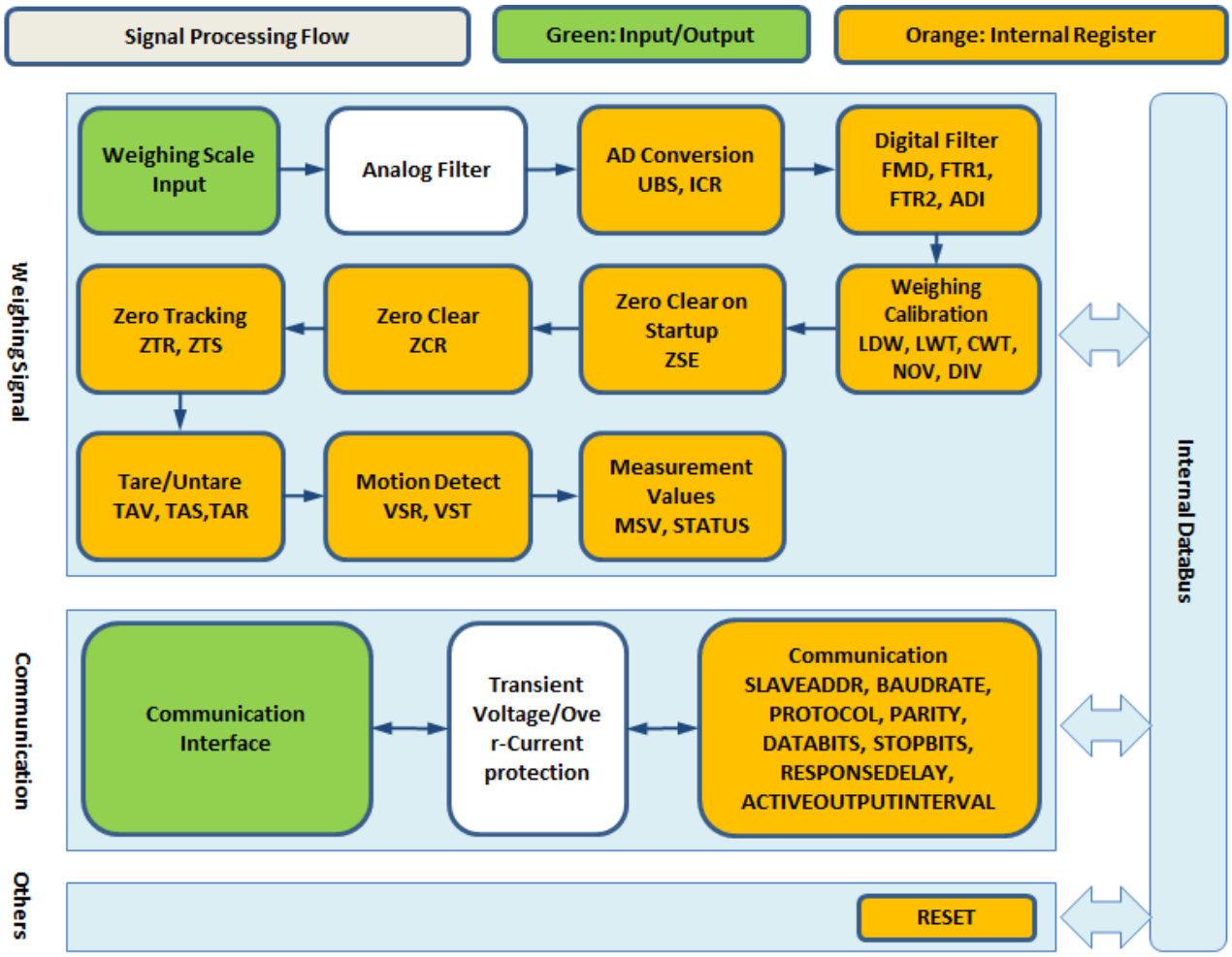
	STOPBITS=1bit; Communicate with the transmitterwith those parameters and then set your desired communication settings, then set switch to RUN mode and power up, thenit will communicate with your settings. Note: You can set transmitter parameter in either RUN or CONFIG mode.

4.3 Ordering Information

Parameters	**Code**	**Comment**
Code 1:Product Series	Giant521	Dual channel weighing transmitter
Code 2:Comm Interface	A B	RS485 RS232
Code 3:Protocol	A B	Modbus-RTU Customize
Code 4:Shield module	A B	NONE (PCBA) Aluminum Die Casting Enclosure
Ordering Code Example: Giant520 Dual channel weighing transmitter,Comm Interface RS485, Protocol Modbus-RTU, Shield module NONE(PCBA),Ordering Code is Giant521 – A AA		

5 Weighing Parameters

Weighing signal processing chain is as below; all parameters can be read/write through Modbus-RTU protocol.



5.1 AD Conversion

UBS - ADC Signal Unipolar/Bipolar Selection		
Data Range	0: Bipolar	Default:0
Power Down Save	YES	

ICR – ADC Internal Conversion Rate		
Data Range	0:100HZ	Default:0
Power Down Save	YES	

5.2 Digital Filter

FMD – Filter Mode		
Data Range	0:Standard Filter 1:FIR Filter	Default:0
Power Down Save	YES	

FTR1–Filter 1		
Data Range	0~9 The weighing value will be more stable but speed will be slow when increase this value.	Default:2
Power Down Save	YES	

FTR2 – Filter 2		
Data Range	0~9 The weighing value will be more stable but speed will be slow when increase this value.	Default:2
Power Down Save	YES	

ADI –Anti Deviation		
Data Range	0~100 The weighing value will be more stable but speed will be slow when increase this value.	Default:70
Power Down Save	YES	

5.3 Weighing Calibration

Weight calibration can be done through LOAD CALIBRATION, You need to preapre the weights(counterweight) with known weight.**Note that any write operation of LDW,LWT,CWT, NOV will clear the weight value set by zero on startup, zero tracking, zero clear, or tare value ,and then switch to GROSS mode.**

LDW - LOAD DEAD WEIGHT		
Data Range	-8388608~8388607 Internal AD value for load dead weight calibration. Writing 0x7FFFFFFF to this register makes the transmitter	Default:0

	using current detected AD value as calibration value.	
Power Down Save	Immediate	

● Can write an internal AD valueto LDW register as dead weight AD value（Not recommended）.

● Clear the weighing platform and write 0x7FFFFFFF to LDW register makes the transmitter using current detected AD value as calibration value.

LWT - LOAD WEIGHT		
Data Range	-8388608~8388607 Internal AD value for load weight calibration. Writing 0x7FFFFFFF to this register makes the transmitter using current detected AD value as calibration value.	Default:1000000
Power Down Save	Immediate	

● Can write an internal AD valueto LWT register as dead weight AD value（Not recommended）.

● Clear the weighing platform and write 0x7FFFFFFF to LWT register makes the transmitter using current detected AD value as calibration value.

CWT - CALIBRATION WEIGHT		
Data Range	-8388608~8388607 The weight value of weights used for LOAD WEIGHT calibration.	Default:1000000
Power Down Save	Immediate	

Note:CWT is used for LOAD CALIBRATION.

NOV- NOMINAL VALUE		
Data Range	-8388608~8388607	Default:1000000
Power Down Save	Immediate	

Note:Weighing Scale Nominal Value

DIV - DIVISION		
Data Range	0-5 0:1 1:2 2:5 3:10 4:20	Default:0

	5:50	
Power Down Save	Immediate	

Note:The measured value resolution.

Example:

Using a strain gauge with nominal 10KG（10000g）,and preapre a weights of 5KG(5000g), The calibration procedure is as following:

(1) DEAD WEIGHT (ZERO) CALIBRATION: clear the weighing platform, and then write 0x7FFFFFF to LDW register to perform calibration.

(2) LOAD WEIGHT CALIBRATION: place the 5KG weights on to the weighing platform, and then write 0x7FFFFFF to LWT register to perform calibration.

(3) SET CALIBRATION WEIGHT: Write 50000 to CWT register for a 5Kg weights, to get 0.1g resolution.Write 5000 to CWT register for a 5Kg weights, to get 1g resolution.

(4)SET NOMINAL VALUE: Write 10000 (1g resolution)to NOVregister for nominal weight 10Kg.

(5) SET DIVISION VALUE: Write 0 to DIV register.

5.4 Zero Clear on Startup

ZSE - Zero on Startup		
Data Range	0:Disabled 1: +/-2% * NOV 2: +/-5% * NOV 3: +/-10% * NOV 4: +/-20% * NOV	Default:0
Power Down Save	Immediate	

Note:

- ZSE=0(Disabled):

When transmitter power on,TAV and TAS in EEPROM(Power Down Save) memory will be recoveried to MSV_TAV and TAS in RAM, and,

If TAS is in **NET** mode, then, MSV_DISP = DETECTED_WEIGHT_ON_POWWERUP - MSV_TAV

If TAS is in **GROSS** mode, then, MSV_DISP = DETECTED_WEIGHT_ON_POWWERUP

- ZSE is not 0(Enabled):

If the DETECTED_WEIGHT_ON_POWWERUP is in the range of ZSE, then set the weight to zero first and then process as mentioned in “ZSE=0(Disabled)”

If theDETECTED_WEIGHT_ON_POWWERUPis out of the range of ZSE, no start up zero clearing action

will be performed.

Note: DETECTED_WEIGHT_ON_POWWERUP is the weighing value at start up.

5.5 Zero Clear

ZCR - Zero Clearing		
Data Range	0:Disabled. 1: Set Zero Clear Range to +/-4% NOV. 2: Set Zero Clear Range to +/-50% NOV. 0xFFFF: Perform Zero Clear.	Default:2
Power Down Save	Immediate	

Note: ZCR is used to set the range of zero clear operation, or perform the zero clear operation.

Note: When executing this command,if the absolute value(including zero clearing value on start up,zero clearing value and load weigh) to be clear by zero clearing operation is less than the range set by ZCR, display weigh value will be cleared to zero. MSV_TAV will also be cleared and TAS will be changed to GROSS. When zero clear function is disabled(ZCR=0), internal zero clear value(including zero clearing value on start up,zero clearing value and load weigh) will be set to zero.

Note: Difference between Zero Clear(ZCL) and Tare(TAR):

- The processing chain process Zero Clear first,then perform zero tracking,and then process the tare.
- The processing chain will not perform zero tracking even the weigh value is zero after tare.

5.6 Zero Tracking Range

ZTR - Zero Tracking Range		
Data Range	0:Disabled 1:+/-1 DIV, 2:+/-2 DIV, 3:+/-5 DIV 4:+/-10 DIV 5:+/-20 DIV 6:+/-50 DIV 7:+/-100 DIV	Default:0
Power Down Save	Immediate	

ZTS - Zero Tracking Speed		
Data Range	0:1 DIV/0.1s 1:2 DIV/0.1s 2:5 DIV/0.1s 3:10DIV/0.1s 4:20 DIV/0.1s 5:50 DIV/0.1s 6:100 DIV/0.1s 7:1 DIV/0.2s 8:2 DIV/0.2s 9:5 DIV/0.2s 10:10DIV/0.2s 11:20 DIV/0.2s 12:50 DIV/0.2s 13:100 DIV/0.2s 14:1 DIV/0.5s 15:2 DIV/0.5s 16:5 DIV/0.5s 17:10DIV/0.5s 18:20 DIV/0.5s 19:50 DIV/0.5s 20:100 DIV/0.5s 21:1 DIV/1.0s 22:2 DIV/1.0s 23:5 DIV/1.0s 24:10DIV/1.0s 25:20 DIV/1.0s 26:50 DIV/1.0s 27:100 DIV/1.0s	Default:24
Power Down Save	Immediate	

Note:Zero tracking is used to force the weighing display value to zero when the value around zero.

For example:WhenZTR is 4(10DIV) and ZTS is 24(10DIV/1.0s), The display value will be tracking to zero when it is in range of+/-10DIV, and the value changes less than +/-10DIV per second.

5.7 Tare

TAR - Tare		
Data Range	0:Execute an tare-clear operation, and will automatically switch to GROSS mode(TAS=1) 1:Execute a tare operation, and will automatically switch to NET mode(TAS=0)	N/A
Power Down Save	NO	

Note:Tare operation can be executed in both GROSS and NET mode.

When executing tare operation, MSV_DISP will be accumulated to MSV_TAV register, and all following weigh value will subtract MSV_TAV, then saved to MSV_DISP, and will automatically switch to NET mode(TAS=0).

When executing untare operation, MSV_TAV will be set to 0, and will automatically switch to GROSS mode(TAS=1).

TAV - Tare Value		
Data Range	-8388608-8388607	Default:0
Power Down Save	USING TDD=1 COMMAND TO PRESERVE VALUE	

TAS - GROSS/NET MODE SELECTION		
Data Range	0: switch to NET mode(TAS=0) 1: switch to GROSS mode(TAS=1)	N/A
Power Down Save	USING TDD=1 COMMAND TO PRESERVE VALUE	

Note:TARE WEIGHT VALUE(MSV_TAV) will be kept when switching between NET and GROSS mode.

● Using TDD=1 to preserve MSV_TAV to TAV(EEPROM),and GROSS/NET selection(TAS) will also be preserved to EEPROM.

● Using TDD=2 to recover MSV_TAV from TAV(EEPROM),and GROSS/NET selection(TAS) will also be recoveried from EEPROM.

● When transmitter power up,automaticlly recover will be performed to recover MSV_TAV from TAV(EEPROM),and GROSS/NET selection(TAS) will also be recovered from EEPROM.

5.8 Motion Detect

This is used to set motion detect range and time, If the weighing value changes less than VSR in time period

VST, and the weighing value changes inside the value set by VSR range, the weighing value is regarded as in standstill status(no motion), the MSV_STATUS.BIT0 is reset.

For Example:If VSR=1(1DIV) and VST=3(1.0 Second), when value changes inside 1DIV and speed of changes≤1DIV/1.0 Second, the MSV_STATUS.BIT0 is reset.

VSR – Motion Detect Range		
Data Range	0：Disabled 1:+/-1 DIV, 2:+/-2 DIV, 3:+/-5 DIV, 4:+/-10.0 DIV	Default:2
Power Down Save	Immediate	

VST – Motion Detect Time		
Data Range	0:0.1 Second 1:0.2 Second 2:0.5 Second 3:1.0 Second 4:2.0 Second 5:5.0 Second	Default:3
Power Down Save	Immediate	

5.9 Measurement Value

MSV_DISP or MSV- DISPLAY WEIGHT VALUE		
Data Range	-8388608~8388607	Default:N/A
Power Down Save	NO	

Note:Display Value Register. The data will be gross value (MSV_GROSS) in GROSS display mode and will be net value (MSV_NET) in NET display mode.

MSV_STATUS - MEASUREMENT STATUS		
Data Range	The measurement status of weighting, each bit has corresponding meaning as following note.	Default:N/A
Power Down Save	NO	

NOTE:

BIT0: Indicate weighing in motion state.This bit will be set when weighing is in motion state, If VSR is disabled,then this bit is always 0.

BIT1: Indicate AD hardware error, This bit will be set when there is AD hardware error.

BIT2: Indicate AD overrange, This bit will be set when AD overrange.

BIT3: Indicate positive overrange, This bit will be set when MSV_GROSS is greater than NOV.

BIT4: Indicate negative overrange, This bit will be set when MSV_GROSS is less than -NOV.

BIT5: Indicate the absolute value(including zero clearing value on startup,zero clearing value and load weigh) to be clear by zero clearing operation is greater than the range set by ZCR.

BIT6: Indicate the TARE/Zero Clearing/TAS operation failed.

BIT7: Indicate the NET/GROSS weighing. This bit will be set when in NET mode(MSV_DISP=MSV_NET), and will be reset when in GROSS mode(MSV_DISP= MSV_GROSS).

BIT8: Indicate out of the ZSE range. This bit will be set when the absolute value of accumulated weight(including zero clearing value on startup,zero clearing value and load weigh) is greater than the range set by ZSE.

BIT9: Indicate the data is valid to use. This bit will be set when data is ready and valid to use.

BIT10: Reserved

BIT11: Reserved

BIT12: Reserved

BIT13: Reserved

BIT14: Reserved

BIT15: Reserved

GROSS WEIGHT VALUE (MSV_GROSS)		
Data Range	-8388608~8388607	Default:N/A
Power Down Save	NO	

Note:Gross value register. Gross weight value(MSV_GROSS)= Net weight value(MSV_NET)+ Tare value(MSV_TAV)

NET WEIGHT VALUE (MSV_NET)		
Data Range	-8388608~8388607	Default:N/A
Power Down Save	NO	

Note:Net value register. Gross weight value(MSV_GROSS)= Net weight value(MSV_NET)+ Tare value(MSV_TAV)

TARE WEIGHT VALUE(MSV_TAV)		
Data Range	-8388608~8388607	Default:0

Power Down Save	USING TDD=1 COMMAND TO PRESERVE VALUE	

Note:Tare value register. Gross weight value(MSV_GROSS)= Net weight value(MSV_NET)+ Tare value(MSV_TAV)

● Using TDD=1 to preserve MSV_TAV to EEPROM,and GROSS/NET selection(TAS) will also be preserved to EEPROM.

● Using TDD=2 to recover MSV_TAV from EEPROM,and GROSS/NET selection(TAS) will also be recoveried from EEPROM.

● When transmitter power up,automaticlly recover will be performed to recover MSV_TAV from EEPROM,and GROSS/NET selection(TAS) will also be recoveried from EEPROM.

AD RAW VALUE(MSV_AD)		
Data Range	-8388608~8388607	Default:N/A
Power Down Save	NO	

Note:AD raw value for weighing channel

MILLI VOLTAGE VALUE(MSV_MV)		
Data Range	-300000~300000 for -30.0000mV~30.0000mV	Default:N/A
Power Down Save	NO	

Note:Milli-Voltage value for weighing channel

5.10 Parameter Save

TDD - Transmit Device Data		
Data Range	0:Reset to factory setting 1:Save MSV_TAV and TAS in RAM to EEPROM（Power Down Save） 2:Recovery MSV_TAV and TAS from EEPROM to RAM	N/A
Power Down Save	NO	

(1) TDD=0

Reset data in EEPROM and RAM to factory setting.

(2) TDD=1

Save MSV_TAV and TAS in RAM to TAV and TAS in EEPROM（Power Down Save）.

(3) TDD=2

Recovery TAV and TAS in EEPROM to MSV_TAV and TAS in RAM, TDD=2 is also executed on power up or reset command.

5.11 Serial Communication

SLAVEADDR -Modbus Slave Address		
Data Range	0-255	Default:1
Power Down Save	Immediate	

Modbus Slave Address,can be set to 0-255.Please refer to “DIP Switch” settings for more information about slave address.You need to powerup the transmitter or send “RST” command to take effect.

BAUDRATE -Baudrate		
Data Range	0:1200bps 1:2400bps 2:4800bps 3:9600bps 4:19200bps 5:38400bps 6:57600bps 7:115200bps	Default:3
Power Down Save	Immediate	

PROTOCOL -Protocol		
Data Range	0 0:Modbus RTU	Default:0
Power Down Save	Immediate	

PARITY -Parity		
Data Range	0-2 0:NONE 1:EVEN 2:ODD	Default:0
Power Down Save	Immediate	

DATABITS -Databits		
Data Range	1:8 databits	Default:1

Power Down Save	Immediate	

STOPBITS -Stopbits		
Data Range	0:1 stopbits 1:2 stopbits	Default:0
Power Down Save	Immediate	

5.12 Reset

RESET – RESET the device		
Data Range	1	
Power Down Save	NO	

Note: To perform a system reset, This is the same function as power up the transmitter.

6 ModbusProtocol

Attention!!!: The register marked with "Y"in"Power Down Save"column will be saved in EEPROM, The total write cycle of these register should be less than 100,000 times, or the EEPROM will be failure.

Register	Register Address (HEX/DEC)	Data type	Modbus Function Code	Data Range and Comments	Default Value	Power Down Save
LDW	0x0010/16 0x0011/17	INT32,RW	3/16	Load Dead Weight -8388608~8388607	0	Y
LWT	0x0012/18 0x0013/19	INT32,RW	3/16	Load Weight -8388608~8388607	1000000	Y
CWT	0x0014/20 0x0015/21	INT32,RW	3/16	Calibration Weight -8388608~8388607	1000000	Y
NOV	0x0016/22 0x0017/23	INT32,RW	3/16	The nominal value of the strain gauge sensor . -8388608~8388607	1000000	Y
TAS	0x0022/34	UINT16,RW	3/6/16	NET/GROSS mode selection: 0:NET mode 1:GROSS mode	1	Using TDD=1 to save
FMD	0x0023/35	UINT16,RW	3/6/16	Filter Mode 0:Standard 1:FIR	0	Y
FTR1	0x0024/36	UINT16,RW	3/6/16	Filter Rate 1 0-9	2	Y
FTR2	0x0025/37	UINT16,RW	3/6/16	Filter Rate 2 0-9	2	Y
ADI	0x0026/38	UINT16,RW	3/6/16	Anti Deviation 0~100	70	Y
TAR	0x0027/39	UINT16,W	3/6/16	0:Untare 1:Tare		N
MSV	0x0028/40 0x0029/41	INT32,RO	3	Display Weight Value -8388608~8388607	N/A	N
STATUS	0x002A/42	UINT16,RO	3	Measurement Status	N/A	N
TDD	0x0030/48	UINT16,WO	3/6/16	Parameter Save/Recovery		N

				0-2		
UBS	0x0040/56	UINT16,RW	3/6/16	1: Bipolar	1	Y
ICR	0x0041/57	UINT16,RW	3/6/16	0:100HZ	0	Y
TAV	0x0050/80 0x0051/81	INT32,RW	3/16	-8388608~8388607	0	Using TDD=1 to save
ZTR	0x0060/96	UINT16,RW	3/6/16	0:Disabled 1:+/-1 DIV, 2:+/-2 DIV, 3:+/-5 DIV 4:+/-10 DIV 5:+/-20 DIV 6:+/-50 DIV 7:+/-100 DIV	0	Y
ZTS	0x0061/97	UINT16,RW	3/6/16	0:1 DIV/0.1s 1:2 DIV/0.1s 2:5 DIV/0.1s 3:10DIV/0.1s 4:20 DIV/0.1s 5:50 DIV/0.1s 6:100 DIV/0.1s 7:1 DIV/0.2s 8:2 DIV/0.2s 9:5 DIV/0.2s 10:10DIV/0.2s 11:20 DIV/0.2s 12:50 DIV/0.2s 13:100 DIV/0.2s 14:1 DIV/0.5s 15:2 DIV/0.5s 16:5 DIV/0.5s 17:10DIV/0.5s 18:20 DIV/0.5s 19:50 DIV/0.5s 20:100 DIV/0.5s 21:1 DIV/1.0s 22:2 DIV/1.0s	24	Y

				23:5 DIV/1.0s 24:10DIV/1.0s 25:20 DIV/1.0s 26:50 DIV/1.0s 27:100 DIV/1.0s		
ZCR	0x0062/98	UINT16,RW	3/6/16	0:Disabled. 1: Set Zero Clear Range to +/-4% NOV. 2: Set Zero Clear Range to +/-50% NOV. 0xFFFF: Perform Zero Clear.	0	Y
ZSE	0x0063/99	UINT16,RW	3/6/16	0:Disabled 1: +/-2% * NOV 2: +/-5% * NOV 3: +/-10% * NOV 4: +/-20% * NOV	0	Y
VSR	0x0064/100	UINT16,RW	3/6/16	0：Disabled 1:+/-1 DIV, 2:+/-2 DIV, 3:+/-5 DIV, 4:+/-10.0 DIV	2	Y
VST	0x0065/101	UINT16,RW	3/6/16	0:0.1 Second 1:0.2 Second 2:0.5 Second 3:1.0 Second 4:2.0 Second 5:5.0 Second	3	Y
DIV	0x0066/102	UINT16,RW	3/6/16	0:1 1:2 2:5 3:10 4:20 5:50	0	Y
MSV_DISP	0x0070/112 0x0071/113	INT32,RO	3	Same with register “MSV”	N/A	N
MSV_GROSS	0x0072/114 0x0073/115	INT32,RO	3	Gross Weight Value	N/A	N
MSV_NET	0x0074/116 0x0075/117	INT32,RO	3	Net Weight Value	N/A	N
MSV_TAV	0x0076/118 0x0077/119	INT32,RO	3	Tare Weight Value	N/A	N

MSV_AD	0x0078/120 0x0079/121	INT32,RO	3	AD Raw Value	N/A	N
MSV_MV	0x007A/122 0x007B/123	INT32,RO	3	Milli-Voltage Value	N/A	N
MSV_STATUS	0x007C/124	UINT16,RO	3	Same with register "STATUS"	N/A	N
MSV -CHANNEL0	0x1000/4096 0x1001/4097	INT32,RO	3	Refer to "MSV" register	N/A	N
STATUS -CHANNEL0	0x1002/4098	UINT16,RO	3	Refer to "STATUS" register	N/A	N
RS485-ADDRESS	0x1200/4608	UINT16,RW	3/6/16	0-255	1	Y
RS485-BAUDRATE	0x1201/4609	UINT16,RW	3/6/16	0:1200bps 1:2400bps 2:4800bps 3:9600bps 4:19200bps 5:38400bps 6:57600bps 7:115200bps	3	Y
RS485-PROTOCOL	0x1202/4610	UINT16,RW	3/6/16	0:Modbus RTU	0	Y
RS485-PARITY	0x1203/4611	UINT16,RW	3/6/16	0:NONE 1:EVEN 2:ODD	0	Y
RS485-DATABITS	0x1204/4612	UINT16,RW	3/6/16	1:8 databits	1	Y
RS485-STOPBITS	0x1205/4613	UINT16,RW	3/6/16	0:1 stopbit 1:2 stopbits	0	Y
RS485-RESERVED	0x1206/4614	UINT16,RW	3/6/16	Reserved	0	Y
RS485-RESERVED	0x1207/4615	UINT16,RW	3/6/16	Reserved	0	Y
RESET	0x1220/4640	UINT16,WO	6/16	1		N

UINT16:16 bit unsigned integer data

INT16: 16 bit signed integer data

UINT32:32 bit unsigned integer data

INT32:32 bit signed integer data

BIT: bit data

RW: The register can be read and write

RO: The register is read only

WO: The register is write only

7 Configuration Utility