



VIS 06/AD-S Analog Input Module

Instruction Sheet

Warning

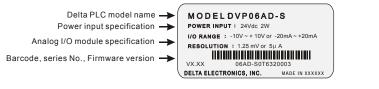
- ✓ Please read this instruction carefully before use.
- ✓ DO NOT tough any terminal when the power is switched on. Switch off the power before wiring.
- ✓ DVP06AD-S is an OPEN-TYPE device and therefore should be installed in an enclosure free of airborne dust, humidity, electric shock and vibration. The enclosure should prevent non-maintenance staff from operating the device (e.g. key or specific tools are required to open the enclosure) in case danger and damage on the device may occur.
- ✓ DO NOT connect input AC power supply to any of the I/O terminals; otherwise serious damage may occur. Check all the wiring again before switching on the power.
- ✓ DO NOT touch any internal circuit in 1 minute after the power is switched off.
- \checkmark Make sure the groud terminal \oplus is correctly grounded in order to prevent electromagnetic interference.

1 Introduction

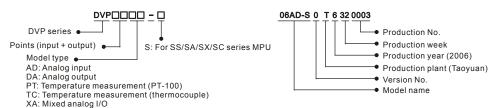
1.1 Model Explanation & Peripherals

- * Thank you for choosing Delta DVP series. The analog signal input module DVP06AD-S is able to receive 6 points of external analog signal inputs (both in voltage and current) and convert the signals into 14-bit digital ones. It is able to read and write the data in the module through FROM/TO instructions given by the program of DVP-PLC SS/SA/SX/SX series MPU. There are 49 16-bit control registers in the module
- ◆ The user can select voltage or current output by wiring. Range of voltage output: ±10VDC (resolution: 1.25mV). Range of current output: ±20mA (resolution: 5µA).

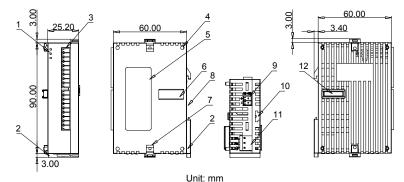
* Nameplate Explanation



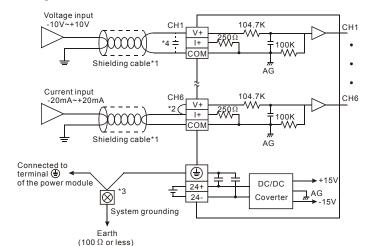
* Model/Serial No. Explanation



1.2 Product Profile & Outline



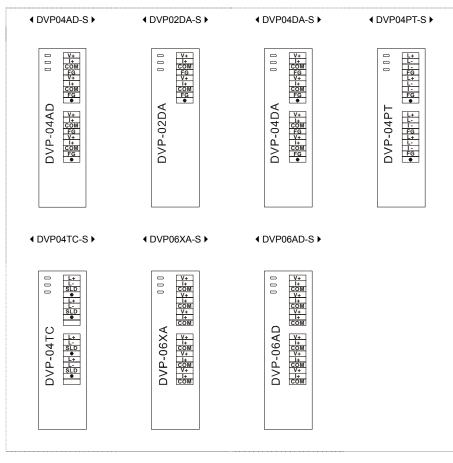
1	POWER, ERROR, A/D indicator	7	Extension unit/module fixing clip
2	DIN rail clip	8	DIN rail (35mm)
3	Terminals	9	RS-485 communication port
4	Extension unit/module mounting hole	10	Extension unit/module fixing notch
5	Nameplate	11	Power input port
6	Extension unit/module connection port	12	Extension unit/module connection port



- *1: When performing analog input, please isolate other power wirings.
- *2: When connecting to current signals, please make sure to short-circuit "V+" and "I+" terminals.
- *3: Please connect the 🕀 terminal on both the power module and DVP06AD-S to the system earth point and ground the system contact or connect it to the cover of power distribution cabinet.
- *4: If the ripples at the loaded input terminal are too significant that causes noise interference on the wiring, connect the wiring to 0.1 ~ 0.47µF 25V capacitor

Note: DO NOT wire empty terminals

1.4 Terminal Configurations of the Analog Module



O Specifications

2.1 Functions

Analog/Digital(6A/D) Module	Voltage Input	Current Input				
Power supply voltage	24VDC (20.4VDC~28.8VDC) (-15% ~ +20%)					
Analog input channel	6 channels/module					
Range of analog input	±10V	±20mA				
Range of digital conversion	±8000	±4000				

Module	
Resolution	1
Input impedance	2
Overall accuracy	1
Response time	3
Isolation	I
Range of absolute input	1
Digital data format	
Average function	`
Self-diagnosis	ι
Communication mode (RS-485)	А () А Г
When connected to DVP-PLC MPU in series	1

Analog/Digital (6A/D)

2.2 Others

Max. rated power consumption	24
Insulation resistance	>5
Noise immunity	ES EF An Da RS
Earth	Th ter ple
Operation/storage	Op 2 Sto
Vibration/shock immunity	Int 68

6 Installation & Wiring

3.1 Mounting and Wiring

* How to install DIN rail

dissipation as shown in the figure.

Wiring

- 3. Use 60/75 °C copper wires only.

4 Control Registers

	DVP06AD-S analog input module						Description													
CR#	RS-485 parameter address	La	tched	Register content	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
#0	H 4000	0	R	Model name	Set C8	by th	ne sy	stem.	Data	a leng	th: 8	bits	(b7 ~	b0).	DVP	06AD	-S m	odel d	code	= H
#1	H 4001	0	R/W	Input mode setting	Cos Reserved CH6 CH5 CH4 CH3 CH2 Input mode: Default = H0000 ∘ Mode 0: Voltage input (-10V ~ +10V) Mode 1: Voltage input (-5V ~ +10V) Mode 2: Current input (-5V ~ +10V) Mode 2: Current input (-12mA ~ +20mA) Mode 3: Current input (-20mA ~ +20mA)						Cł	41								

1.3 External Wiring

Voltage Input	Current Input							
4 bits(1 _{LSB} = 1.25mV)	13 bits (1 _{LSB} = 5µA)							
00KΩ or more 250Ω								
0.5% when in full scale (25°C, 77°F)								
1% when in full scale in the range of 0 ~ 55°C, 32 ~ 131°F								
ms \times the number of channels								
solation between digital area and anal	og area. No isolation among channels.							
15V	±32mA							
3 significant bits out of 16 bits are ava	ilable; in 2's complement.							
es. Available for setting up in CR#2 ~	CR#7; range: K1 ~ K20.							
Ipper and lower bound detection/channel								
SCII/RTU mode.								
ommunication speed: 4.800/9.600/19.200/38.400/57.600/115.200								

Communication speed: 4,800/9,600/19,200/38,400/57,600/115,200

ASCII data format: 7-bit, even bit, 1 stop bit (7, E, 1)

RTU data format: 8-bit, even bit, 1 stop bit (8, E, 1)

RS-485 cannot be used when connected to PLC MPU in series

The modules are numbered from 0 to 7 automatically by their distance from MPU. Maximum 8 modules are allowed to connect to MPU and will not occupy any digital I/O points.

Power Supply

4VDC (20.4VDC ~ 28.8VDC) (-15% ~ +20%), 2W supplied by external power

Environment

5 MΩ (all I/O point-to-ground: 500VDC)

SD(IEC 61131-2, IEC 61000-4-2): 8KV Air Discharge

FT(IEC 61131-2, IEC 61000-4-4): Power Line: 2KV, Digital I/O: 1KV,

nalog & Communication I/O: 1KV

amped-Oscillatory Wave: Power Line: 1KV, Digital I/O: 1KV

S(IEC 61131-2, IEC 61000-4-3): 26MHz~1GHz, 10V/m

e diameter of grounding wire shall not be less than that of the L, N

rminal of the power. (When many PLCs are in use at the same time,

lease make sure every PLC is properly grounded.)

peration: 0°C ~ 55°C (temperature); 50 ~ 95% (humidity); pollution degree

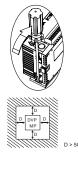
orage: -40°C ~70°C (temperature); 5 ~ 95% (humidity) ternational standards: IEC1131-2, IEC 68-2-6 (TEST Fc)/IEC1131-2 & IEC 8-2-27(TEST Ea)

DVP-PLC can be secured to a cabinet by using the DIN rail of 35mm in height and 7.5mm in depth. When mounting PLC to DIN rail, be sure to use the end bracket to stop any side-to-side movement of PLC and reduce the chance of wires being loosen. A small retaining clip is at the bottom of PLC. To secure PLC to DIN rail, place the clip onto the rail and gently push it up. To remove it, pull the retaining clip down and gently remove PLC from DIN rail, as shown in the figure.

Please install PLC in an enclosure with sufficient space around it to allow heat

1. Use 22-16AWG (1.5mm) single or multiple core wire on I/O wiring terminals. The specification of the terminal is shown in the figure on the left. The PLC terminal screws shall be tightened to 1.95 kg-cm (1.7 in-lbs).

2. DO NOT place the I/O signal wires and power supply wire in the same wiring duct.



DVP06AD-S analog input module					Description														
CR#	RS-485 CR# parameter Latched Register content address			b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
#2	H 4002	0 R/W	0114 0110				CH	12					CH1						
#3	H 4003	O R/W	CH1 ~ CH6 Average times setting	CH4					CH3										
#4	H 4004	0 R/W		CH6						CH5									

Range of settings in CH1 ~ CH6; K1 ~ K20, Default = K10, Default settings of CR2 ~ 4 are all H'0A0A

#34 H 4022 R Firmware version Displaying the current firmware version in hex, e.g. version 1.00 is indicated as H0100.				-	-						
#77 H4007 × R CH2 input average #8 H4008 × R CH3 input average #11 H4008 × R CH4 input average #11 H4008 × R CH3 input present value #13 H4007 × R CH4 input present value #16 H4001 × R CH3 input present value #17 H4011 × R CH3 input present value #18 H4012 Rvw Adjusted OFFSET value of CH3 #11 H4011 × R CH3 input present value #17 H4011 × R CH3 input present value #11 H4011 × R CH3 input present value #11 H4011 × R MW Adjusted OFFSET value of CH3 #11 H4011 × RW Adjusted OFFSET value of CH3 OH4014 RW #21 H4016 RW Adjusted GAN value of CH3 OH4014 RW Adjusted GAN value of CH3 OH4014 RW Adjusted GAN value of CH	#5				Reserved						
#77 H4007 × R CH2 input average #6 H4000 × R CH3 input average #11 H4008 × R CH4 input average #11 H4008 × R CH4 input present value #11 H4008 × R CH4 input present value #11 H4001 × R CH4 input present value #16 H4010 × R CH4 input present value #17 H4011 × R CH4 input present value #17 H4011 × R CH4 input present value #18 H4011 × R CH4 input present value #20 H4016 Rvw Adjusted OFFSET value of CH3 #21 H4016 Rvw Adjusted OFFSET value of CH4 #23 H4017 Rvw Adjusted GAN value of CH3 CH4 #24 H4018 Rvw Adjusted GAN value of CH3 CH4 #25 H4010 Rvw Adjusted GAN value of CH3 Register for storing all error status. See the table of error st	#6	H 4006	X	R	CH1 input average						
# 4000 × R CH4 input average #11 H4000 × R CH6 input average #11 H4000 × R CH6 input average #11 H4000 × R CH6 input average #11 H4000 × R CH2 input present value #11 H4001 × R CH6 input present value #11 H4001 × R CH6 input present value #11 H4011 × R CH6 input present value #11 H4012 RVM Adjusted OFFSET value Present value of input signals at CH1 ~ CH6. Default = K0; Unit: LS8 #22 H4014 RVM Adjusted OFFSET value Present value Present value of input range: K-4.000 ~ K-4.000 #23 H4016 RVM Adjusted GAIN value of CH6 CH6 CH6 #24 H4016 RVM Adjusted GAIN value of CH6 CH6 CH6 #24 H4016 RVM Adjusted GAIN value of CH6 CH6 CH6 #26 H4016 RVM Adjusted GAIN value of CH6 CH6 C	#7	H 4007	X	R	CH2 input average						
#4005 R CHainput average #11 H4006 R CHF input average #11 H4006 R CHF input present value #13 H4006 R CHF input present value #16 H4007 R CHF input present value #16 H4007 R CHF input present value #17 H4007 R CHF input present value #18 H4012 RW Aljusted OFFSET value #20 H4014 RW Adjusted OFFSET value #21 H4016 RW Adjusted OFFSET value #21 H4016 RW Adjusted OFFSET value #22 H4014 RW Adjusted GFSET value #22 H4016 RW Adjusted GAIN value of CH6 #23 H4016 RW Adjusted GAIN value of CH6 #24 H4010 RW Adjusted GAIN value		H 4008	\times	R	CH3 input average	Average of input signals at CH1 ~ CH6					
#11 H 40005 R CH6 input presert value #13 H 40005 R CH2 input presert value #16 H 4000 R CH2 input presert value #17 H 4000 R CH3 input presert value #16 H 4010 R CH3 input presert value #17 H 4011 R R CH3 input presert value #17 H 4011 R R CH3 input presert value #17 H 4011 R R CH3 input presert value d CH3 Present value of input signals at CH1 - CH6. Default = K0; Unit: LSB #20 H 4013 R R M 4014 R R M 4014 R R M 4014 R M Adjusted OFFSET value of CH3 Present value of input signals at CH1 - CH6. Default = K0; Unit: LSB Monot #22 H 4015 R R M 4014 R R R M 4014 R R M 4014 R R R M 4014 R R R M 4014 R R R R						Average of input signals at of the of to					
#12 H 400C R CH1 input present value #14 Present value of input signals at CH1 ~ CH6 #14 H 400E R CH3 input present value #16 Present value of input signals at CH1 ~ CH6 #16 H 4010 R CH4 input present value #16 Present value of input signals at CH1 ~ CH6 #19 H 4012 R CH6 input present value #16 CH1 #19 H 4012 R CH6 input present value #16 CH3 #20 H 4014 R CH6 input present value #16 CH3 #21 H 4015 R Adjusted OFFSET value for CH3 #22 H 4016 R Adjusted OFFSET value for CH4 #22 H 4017 R Adjusted GAIN value of CH6 #22 H 4018 R Adjusted GAIN value of CH6 CH4 #23 H 4010 R Adjusted GAIN value of CH6 CH4 #24 H 4018 R R Error status CAIN settings at CH1 - CH6. Default = K4.000; Unit: LS8 #24 H 4016 R Adjusted GAIN value of CH6 CH4 CH4 #25 H 4010 R Corron catus </td <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td>			X								
#13 H 400D X R CH2 input present value #15 H 400F R CH4 input present value #16 H 400F R CH4 input present value #17 H 4011 R CH4 input present value of CH1 Present value of input signals at CH1 ~ CH6 CH6 #19 H 4012 R CH4 input present value of CH2 CH4 CH6 input present value of CH2 CH6 CH4 CH6			X								
#14 H400E X R CH3 input present value #16 Present value of input signals at CH1 ~ CH6 #16 H4010 X R CH5 input present value Adjusted OFFSET value of CH1 OFFSET settings at CH1 ~ CH6. Default = K0; Unit: LSB When voltage input, range: K4.000 ~ K4.000 W #18 H4015 RW Adjusted OFFSET value of CH3 OFFSET settings at CH1 ~ CH6. Default = K0; Unit: LSB When voltage input, range: K4.000 ~ K4.000 When current input, range: K4.000 ~ K4.000 #22 H4016 RW Adjusted OFFSET value of CH3 OFFSET settings at CH1 ~ CH6. Default = K4.000; Unit: LSB When voltage input, range: K3.200 ~ K1.000; When current input, range: K3.200 ~ K1.000; When current input, range: K3.200 ~ K10.000; When current input, range: K3.200 ~ K10.000; W			X								
#15 H400F R CH4 input present value #16 H4010 R CH5 input present value #17 H4011 R CH6 input present value #19 H4013 RV Adjusted OFSET value of CH2 #20 H4014 RV Adjusted OFSET value of CH3 #21 H4015 RV Adjusted OFSET value of CH3 #22 H4016 RV Adjusted OFSET value of CH4 #23 H4017 RV Adjusted OFSET value of CH4 #24 H4018 RV Adjusted OFSET value of CH6 #22 H4016 RV Adjusted OFSET value of CH6 #22 H4017 RV Adjusted ORN value of CH6 #22 H4018 RV Adjusted GAIN value of CH6 #22 H4010 RV Adjusted GAIN value of CH6 #22 H4010 RV Adjusted GAIN value of CH6 #23 H4010 RV Adjusted GAIN value of CH6 #33 H4010 RVV Communication address setting For setting all error status. See the table of error status for more informaton. #33 <t< td=""><td>-</td><td></td><td>K</td><td></td><td></td><td></td></t<>	-		K								
#16 H 4010 X R CH5 input present value #17 H 4011 X R CH5 input present value #18 H 4012 X R CH5 input present value #19 H 4013 R R CH5 input present value #20 H 4014 R Adjusted OFFSET value OFFSET settings at CH1 ~ CH6. Default = K0; Unit: LSB #21 H 4015 R RV Adjusted OFFSET value OFFSET settings at CH1 ~ CH6. Default = K4.000 ~ K4.000 #22 H 4016 RV Adjusted OFFSET value OFFSET value OFFSET value #25 H 4017 RV Adjusted GAIN value of OFFSET value OFFSET value #26 H 4018 RV Adjusted GAIN value of OFFSET value OFFSET value #28 H 4016 RV Adjusted GAIN value of OFFSET value OFFSET value #29 H 4010 RV R RV Communication address Setting #30 H 4017 RV Communication speed Setting Setting Setting #32 H 4020 RV			\bigotimes			Present value of input signals at CH1 ~ CH6					
#17 H 4011 R CHi input present value of CH1 #18 H 4012 RW Rivested OFFSET value of CH2 CH1 #19 H 4013 RW Rivested OFFSET value of CH3 CFSET settings at CH1 ~ CH6. Default = K0; Unit: LSB #20 H 4016 RW Adjusted OFFSET value of CH4 CFSET settings at CH1 ~ CH6. Default = K0; Unit: LSB #21 H 4017 RW Adjusted OFFSET value of CH4 CFSET settings at CH1 ~ CH6. Default = K4,000 ~ K4,000 #22 H 4016 RW Adjusted OFFSET value of CH3 CFSET settings at CH1 ~ CH6. Default = K4,000 ~ K4,000 #23 H 4017 RW Adjusted GAIN value of CH3 CH1 #24 H 4018 RW Adjusted GAIN value of CH4 CH2 #25 H 4010 RW Adjusted GAIN value of CH4 CH4 #4011 RW Adjusted GAIN value of CH6 FFSET setting at CH1 ~ CH6. Default = K4,000; Unit: LSB #4011 RW Adjusted GAIN value of CH4 FFSET setting at CH1 ~ CH6. Default = K4,000; Unit: LSB #4011 RW Adjusted GAIN value of CH4 FFSET setting at CH1 ~ CH6. Default = K4,000; Unit: LSB #4011 RW Adjusted GAIN valu			\ominus								
#18 H 4012 Rw Adjusted OFFSET value of CH1 OFFSET settings at CH1 ~ CH6. Default = K0; Unit: LSB #20 H 4014 Rw Adjusted OFFSET value of CH2 OFFSET settings at CH1 ~ CH6. Default = K0; Unit: LSB #21 H 4015 Rw Adjusted OFFSET value of CH3 OFFSET value of CH4 OFFSET value of CH4 OFFSET value of CH3 #22 H 4016 Rw Adjusted OFFSET value of CH3 #23 H 4017 Rw Adjusted GAIN value of CH3 Galusted OFFSET value of CH3 #24 H 4018 Rw Adjusted GAIN value of CH3 CH3 Adjusted GAIN value of CH3 OFFSET value of CH3 OFFSET value of CH3 OFFSET value of CH3 OFFSET value of CH4 OFFSET value of CH3 OFFSET value of CH4 OFFSET value			\bigcirc								
#19 H 4013 RW Adjusted OFFSET value of CH2 #19 H 4014 RW Adjusted OFFSET value of CH3 OFFSET settings at CH1 ~ CH6. Default = K0; Unit: LSB #22 H 4015 RW Adjusted OFFSET value of CH3 OFFSET settings at CH1 ~ CH6. Default = K0; Unit: LSB #22 H 4016 RW Adjusted OFFSET value of CH3 OFFSET value of CH3 #23 H 4017 RW Adjusted OFFSET value of CH3 OFFSET value of CH3 #24 H 4018 RW Adjusted GAIN value of CH1 OFHSET value of CH3 #25 H 4017 RW Adjusted GAIN value of CH3 OFHSET value of CH3 #26 H 4016 RW Adjusted GAIN value of CH3 OFHA #27 H 4018 RW Adjusted GAIN value of CH4 OFHA #28 H 4010 RW Adjusted GAIN value of CH6 For setting RS-485 communication sheet when setting OFFSET and GAIN. #30 H 4018 R Error status For setting RS-485 communication address. Range: 01 ~ 255. Default = K1 #31 H 4020 RW Communication speed (baud rate) setting For setting RS-485 communication speed: 4,800 / 9,600 / 19,200 / 38,400 / 57,600 / 155. Dit14 bit											
#19 H 4013 RW of CH2 #20 H 4014 RW Adjusted OFFSET value of CH3 OFFSET value of CH4 #21 H 4015 RW Adjusted OFFSET value of CH4 OFFSET value of CH4 #22 H 4016 RW Adjusted OFFSET value of CH5 OFFSET value of CH6 #22 H 4017 RW Adjusted OFFSET value of CH6 OFFSET value of CH6 #22 H 4018 RW Adjusted GAIN value of CH6 OFFSET value of CH6 #22 H 4018 RW Adjusted GAIN value of CH6 GAIN settings at CH1 ~ CH6. Default = K4,000; Unit: LSB #26 H 4017 RW Adjusted GAIN value of CH6 GAIN settings at CH1 ~ CH6. Default = K4,000; Unit: LSB #27 H 4018 RW Adjusted GAIN value of CH6 Please refer to this instruction sheet when setting OFFSET and GAIN. #28 H 4010 RW Adjusted GAIN value of CH6 From status #30 H 4017 R Reflect GAIN value of CH6 For setting up communication address #31 H 4017 RW Communication address For setting up Communication address #33 H 4020 RW Rel	#10	H 4012	0	R/W	of CH1						
# H4014 RW Adjusted OFFSET value of CH3 OFFSET settings at CH1 ~ CH6. Default = K0: Unit: LSB When outgae input, range: K-4,000 ~ K4,000 #22 H 4016 RW Adjusted OFFSET value of CH4 OFFSET settings at CH1 ~ CH6. Default = K0: Unit: LSB When current input, range: K-4,000 ~ K4,000 #22 H 4016 RW Adjusted GFSET value of CH5 OFFSET settings at CH1 ~ CH6. Default = K4,000 ~ K4,000 #23 H 4017 RW Adjusted GAIN value of CH2 OFFSET settings at CH1 ~ CH6. Default = K4,000; Unit: LSB #24 H 4018 RW Adjusted GAIN value of CH2 OFFSET settings at CH1 ~ CH6. Default = K4,000; Unit: LSB #25 H 4014 RW Adjusted GAIN value of CH3 OFFSET settings at CH1 ~ CH6. Default = K4,000; Unit: LSB #26 H 4016 RW Adjusted GAIN value of CH3 OFFSET settings at CH1 ~ CH6. Default = K4,000; Unit: LSB #30 H 401E R Reformation address setting Register for storing all error status. See the table of error status for more information. #31 H 401F R RW Communication address setting For setting up communication address. Setting Setting Setting Set	#19	H 4013	\bigcirc	R/W							
#20 H 4014 RW RW Adjusted OFFSET Value of CH3 When voltage input, range: K-4,000 - K4,000 #21 H 4015 RW Adjusted OFFSET Value of CH5 When voltage input, range: K-4,000 - K4,000 #22 H 4017 RW Adjusted OFFSET Value of CH5 Please refer to this instruction sheet when setting OFFSET and GAIN. #22 H 4018 RW Adjusted GAIN value of CH1 GAIN settings at CH1 ~ CH6. Default = K4,000; Unit: LSB #22 H 4018 RW Adjusted GAIN value of CH2 GAIN settings at CH1 ~ CH6. Default = K4,000; Unit: LSB #26 H 401A RW Adjusted GAIN value of CH3 RW Adjusted GAIN value of CH4 #27 H 401B RW Adjusted GAIN value of CH3 RW Adjusted GAIN value of CH4 #28 H 401C RW Adjusted GAIN value of CH5 RW Adjusted GAIN value of CH4 #30 H 401F RW Communication address setting For setting RS-485 communication address. Range: 01 ~ 255. Default = K1 #31 H 401F RW Communication speed (baud rate) setting For setting up communication speed: 4,800 / 9,600 / 19,200 / 38,400 / 57,600 / 115,2000ps Si 38,400 ps #33 H 4022			<u> </u>			OFFSET settings at CH1 ~ CH6. Default = K0; Unit: LSB					
#21 H 4015 R/W Adjusted OFFSET value of CH4 When current input, range: K-4,000 ~ K4,000 #22 H 4016 R/W Adjusted OFFSET value of CH5 Please refer to this instruction sheet when setting OFFSET and GAIN. #23 H 4017 R/W Adjusted OFFSET value of CH6 GAIN settings at CH1 ~ CH6. Default = K4,000; Unit: LSB #24 H 4018 R/W Adjusted GAIN value of CH3 GAIN settings at CH1 ~ CH6. Default = K4,000; Unit: LSB #26 H 40110 R/W Adjusted GAIN value of CH3 GAIN settings at CH1 ~ CH6. Default = K4,000; Unit: LSB #27 H 4018 R/W Adjusted GAIN value of CH3 GAIN settings at CH1 ~ CH6. Default = K4,000; Unit: LSB #28 H 4010 R/W Adjusted GAIN value of CH4 GAIN settings at CH1 ~ CH6. Default = K4,000; Unit: LSB #30 H 401E R Error status Register for storing all error status. See the table of error status for more information. #31 H 401F R/W Communication address setting For setting RS-485 communication address. Por setting up communication speed tha00 / 9,600 / 19,200 / 38,400 / 57,600 / 115,2000ps Setting Correcting Adjusted OFFSET/GAIN NIT 2,000ps b5: 115,2000ps #32 H 4020 R/W Return to defauit thigh/dw bit exchange	#20	H 4014	\bigcirc	R/W							
#4015 RVW of CH4 #22 H 4016 RVW Adjusted OFFSET value of CH5 #23 H 4017 RVW Adjusted OFFSET value of CH6 #24 H 4018 RVW Adjusted GAIN value of CH6 #25 H 4019 RVW Adjusted GAIN value of CH2 GAIN settings at CH1 ~ CH6. Default = K4,000; Unit: LSB #26 H 4018 RVW Adjusted GAIN value of CH3 GAIN settings at CH1 ~ CH6. Default = K4,000; Unit: LSB #27 H 4018 RVW Adjusted GAIN value of CH3 GAIN settings at CH1 ~ CH6. Default = K4,000; Unit: LSB #28 H 401C RVW Adjusted GAIN value of CH4 GAIN settings at CH1 ~ CH6. Default = K4,000; Unit: LSB #29 H 401B RVW Adjusted GAIN value of CH6 Register for storing all error status. See the table of error status for more information. #30 H 401F R Error status For setting PS-485 communication address. #31 H 401F RW Communication speed (brauf rate) setting For setting VD communication speed: 4,800 / 9,600 / 19,200 / 38,400 / 57,600 / 15,200 / 38,400 / 57,600 / 15,200 / 38,400 / 57,600 / 15,200 / 38,400 / 50,500 / 15,200 / 38,400 / 50,500 / 15,200 / 58,500 / 15,200 / 58,500 / 15,200 / 58,500 / 15,200 / 58,500 / 15,200 / 58,500 / 15,200 / 58,500 /						When current input, range: K-4,000 ~ K4,000					
#22 H 4016 R/W Adjusted OFFSET value of CH6 Please refer to this instruction sheet when setting OFFSET and GAIN. #23 H 4017 R/W Adjusted OFFSET value of CH6 R/W Adjusted GAIN value of CH1 #24 H 4018 R/W Adjusted GAIN value of CH2 GAIN settings at CH1 ~ CH6. Default = K4,000; Unit: LSB #26 H 401A R/W Adjusted GAIN value of CH3 When voltage input; range: K-3,200 ~ K16,000 #27 H 401B R/W Adjusted GAIN value of CH3 GAIN settings at CH1 ~ CH6. Default = K4,000; Unit: LSB #28 H 401C R/W Adjusted GAIN value of CH3 Please refer to this instruction sheet when setting OFFSET and GAIN. #30 H 401E R Error status For setting RS-485 communication address. Range: 01 ~ 255. Default = K1 #31 H 401F R/W Communication address For setting RS-485 communication address. Range: 01 ~ 255. Default = K1 #32 H 4020 R/W Communication speed (baud rate) setting b1: 4,800 ps; (b6 lab) 14 (b1 b); p3 pb; p3 pb; (b6 lab) 14 (b1 b); p3 pb; p5 pb; (b6 lab) 14 (b1 b); p4 pb; p8 pb; p5 lab) 15 lab 13 pb; p4 pb; p4 pb; p4 pb; p4 pb; p4 pb; p5 lab; p	#21	H 4015	0	R/W							
#22 H4010 RW of CH5 #23 H4017 RW Adjusted GAIN value of CH6 #24 H4018 RW Adjusted GAIN value of CH2 #25 H4019 RW Adjusted GAIN value of CH2 #26 H4014 RW Adjusted GAIN value of CH3 #27 H4018 RW Adjusted GAIN value of CH4 #28 H401C RW Adjusted GAIN value of CH5 #29 H4010 RW Adjusted GAIN value of CH5 #29 H4010 RW Adjusted GAIN value of CH6 #30 H401E R R #31 H401F RW Adjusted GAIN value of CH6 #33 H401F RW Communication address setting #31 H401F RW Communication speed #32 H4020 RW Return to default #33 H4020 RW Return to default #33 H4020 RW Return to default #33 H4021 RW Return to default #33 H4021 RW Return to default <td>#00</td> <td>11 4040</td> <td>~</td> <td>DAA</td> <td></td> <td colspan="5" rowspan="2">Please refer to this instruction sheet when setting OFFSET and GAIN.</td>	#00	11 4040	~	DAA		Please refer to this instruction sheet when setting OFFSET and GAIN.					
#23 H4017 RW of CH6 #24 H4018 RW Adjusted GAIN value of CH2 #25 H4019 RW Adjusted GAIN value of CH2 #26 H4011 RW Adjusted GAIN value of CH3 #27 H401B RW Adjusted GAIN value of CH4 #28 H4010 RW Adjusted GAIN value of CH4 #28 H4010 RW Adjusted GAIN value of CH5 #29 H4010 RW Adjusted GAIN value of CH5 #30 H401E R Error status #31 H401F RW Communication address setting #31 H401F RW Communication speed (baud rate) setting #32 H4020 RW Communication speed (baud rate) setting #33 H4020 RW Return to default setting: OFFSET/GAIN value of Ch4 #33 H4021 RW Return to default setting: OFFSET/GAIN #34 H4021 RW Return to default setting: OFFSET/GAIN #33 H4021 RW Return to default setting: OFFSET/GAIN #34 H4022 R <td< td=""><td>#22</td><td>H 4016</td><td>0</td><td>R/W</td><td></td></td<>	#22	H 4016	0	R/W							
#24 H 4018 RW Adjusted GAIN value of CH1 #25 H 4018 RW Adjusted GAIN value of CH2 GAIN settings at CH1 ~ CH6. Default = K4,000; Unit: LSB When voltage input, range: K-3,200 ~ K10,400 #27 H 4018 RW Adjusted GAIN value of CH3 OHA #28 H 401C RW Adjusted GAIN value of CH4 OHA #29 H 4010 RW Adjusted GAIN value of CH4 OHA #29 H 4010 RW Adjusted GAIN value of CH6 OHA #30 H 401E R Register for storing all error status. See the table of error status for more information. #31 H 401F RW Communication address setting For setting RS-485 communication address. Range: 01 ~ 255. Default = K1 #32 H 4020 RW Communication speed (baud rate) setting For setting up communication speed: 4,800 / 9,600 / 19,200 / 38,400 / 57,600 / 115,200bps #32 H 4020 RW Return to default setting. OFFSET/GAIN Si 38,400bps #33 H 4021 RW Return to default setting. OFFSET/GAIN In 01 #33 H 4021 RW Return to default setting. OFFSET/GAIN In 02 #34 <td>#23</td> <td>H 4017</td> <td>\cap</td> <td></td> <td>Adjusted OFFSET value</td> <td></td>	#23	H 4017	\cap		Adjusted OFFSET value						
#44 H 4018 INW CH1 #25 H 4019 RW Adjusted GAIN value of CH2 GAIN settings at CH1 ~ CH6. Default = K4.000; Unit: LSB #26 H 4018 RW Adjusted GAIN value of CH3 GAIN settings at CH1 ~ CH6. Default = K4.000; Unit: LSB #27 H 4018 RW Adjusted GAIN value of CH4 When voltage input, range: K-3,200 ~ K10,400 #28 H 4010 RW Adjusted GAIN value of CH5 Register for storing all error status. See the table of error status for more information. #30 H 401E R Error status For setting RS-485 communication address. Range: 01 ~ 255. Default = K1 #31 H 4017 RW Communication address setting For setting up communication speed: 4,800 / 9,600 / 19,200 / 38,400 / 57,600 / 115,200bps #32 H 4020 RW Communication speed (baud rate) setting For setting up communication speed: 4,800 / 9,600 / 19,200 / 38,400 / 57,600 / 115,200bps #33 H 4021 RW Return to default setting: OFFSET/GAIN For setting up communication speed b14: High/Now bit exchange of CRC checksum (only valid in RTU mode) b15: Switch between ASCI/RTU mode. b15 b14 b3 b2 b1 b1 #33 H 4021 RW Return to default setting: OFFSET/GAIN Feture to default CH4 </td <td>#23</td> <td>114017</td> <td></td> <td>10.00</td> <td></td> <td></td>	#23	114017		10.00							
#25 H 4019 RW Adjusted GAIN value of CH2 GAIN settings at CH1 ~ CH6. Default = K4,000; Unit: LSB When voltage input, range: K-3,200 ~ K10,000 H401B RW Adjusted GAIN value of CH3 GAIN settings at CH1 ~ CH6. Default = K4,000; Unit: LSB When voltage input, range: K-3,200 ~ K10,400 #27 H 401B RW Adjusted GAIN value of CH4 #28 H 401C RW Adjusted GAIN value of CH5 #29 H 401D RW Adjusted GAIN value of CH6 #30 H 401E R Error status Register for storing all error status. See the table of error status for more information. #31 H 401E RW Communication address For setting RS-485 communication address. Range: 01 ~ 255. Default = K1 #32 H 4020 RW Communication speed (baud rate) setting For setting RS-485 communication address. Range: 01 ~ 255. Default = K1 #33 H 4020 RW Return to default setting: 0F005 (baud rate) setting Soluta format: 7-bit, even bit, 1 stop bit (7, E, 1) #33 H 4021 RW Return to default setting: 0F75ET/GAIN Solut ata format: 7-bit, even bit, 1 stop bit (7,	#24	H 4018	0	R/W							
#4019 RW CH2 CH3 CH2 #26 H 4014 RW Adjusted GAIN value of CH3											
#26 H 401A RW Adjusted GAIN value of CH3 GAIN settings at CH1 ~ CH6. Default = K4,000; Unit: LSB When voltage input; range: K-3,200 ~ K16,000 #27 H 401B RW Adjusted GAIN value of CH4 When voltage input; range: K-3,200 ~ K10,400 #28 H 401C RW Adjusted GAIN value of CH4 Please refer to this instruction sheet when setting OFFSET and GAIN. #29 H 401D RW Adjusted GAIN value of CH6 Register for storing all error status. See the table of error status for more information. #30 H 401E R Error status Register for storing all error status. See the table of error status for more information. #31 H 401F RW Communication address setting For setting RS-485 communication address. Range: 01 ~ 255. Default = K1 #32 H 4020 RW Communication speed (baud rate) setting For setting up communication speed: 4,800 / 9,600 / 19,200 / 38,400 / 57,600 / 115,200ps #33 H 4021 RW Return to default Stitch between ASCII/RTU mode. #33 H 4021 RW Return to default Stitch between ASCII/RTU mode. #33 H 4021 RW Return to default CH6 CH2 #34 H 4022 R	#25	H 4019	0	R/W							
#401A RW RW CH3 When Voltage Input, range: K-3,200 ~ K10,000 #27 H 401B RW Adjusted GAIN value of CH4 When voltage input, range: K-3,200 ~ K10,400 #28 H 401C RW Adjusted GAIN value of CH5 Please refer to this instruction sheet when setting OFFSET and GAIN. #29 H 401D RW Adjusted GAIN value of CH6 Register for storing all error status. See the table of error status for more information. #30 H 401F R Error status Communication address setting For setting RS-485 communication address. Range: 01 ~ 255. Default = K1 #31 H 401F RW Communication speed (baud rate) setting For setting up communication speed: 4,800 / 9,600 / 19,200 / 38,400 / 57,600 / 115,200ps #32 H 4020 RW Communication speed (baud rate) setting For setting up communication speed: 4,800 / 9,600 / 19,200 / 38,400 / 57,600 / 115,200ps #33 H 4020 RW Return to default setting Stift for upper/lower bit, 1 stop bit (R, E, 1) #33 H 4021 RW Return to default setting; OFFSET/GAIN tuning, 0 = forbidder; 1 = allowed (default) Stift for upper/lower bound alarm on the input value for the channel. O attraction; 0 = forbidder; 1 = allowed (default) #33 H 4022 R </td <td></td> <td></td> <td></td> <td>D 444</td> <td></td> <td colspan="6"></td>				D 444							
#27 H 401B RW Adjusted GAIN value of CH4 Please refer to this instruction sheet when setting OFFSET and GAIN. #28 H 401C RW Adjusted GAIN value of CH6 Register for storing all error status. See the table of error status for more information. #30 H 401E R Error status Register for storing all error status. See the table of error status for more information. #31 H 401F RW Communication address setting For setting RS-485 communication address. Range: 01 ~ 255. Default = K1 #33 H 4020 RW Communication speed (baud rate) setting For setting up communication speed: 4,800 / 9,600 / 19,200 / 38,400 / 57,600 / 115,200pps #33 H 4020 RW Communication speed (baud rate) setting For setting up communication speed: 4,800 / 9,600 / 19,200 / 38,400 / 57,600 / 115,200pps #33 H 4021 RW Return to default (baud rate) setting b0: 4,800bps b1: 9,600bps (default) b2: 19,200bps b3: 38,400bps b4: 67,600bps b5: 115,200bps b6 ~ b13: teserved b14: High/low bit exchange of CRC checksum (only valid in RTU mode) b15: Switch between ASCII/RTU mode. b15 [b14] [b13] b11] [b11] [b10] [b9] b8 [b7] b6 [b5] b4 [b3] b2 [b1] b1 Return to default setting: OFFSET/GAIN tuning authorization #33 H 4022 R Return to default setting: OFFSET/GAIN tuning authorization Switch for upper/lower bound alarm on the input value for th	#26	H 401A	$ \circ $	R/W		When voltage input, range: K-3,200 ~ K16,000 When current input, range: K-3,200 ~ K10,400 Please refer to this instruction sheet when setting OEESET and GAIN					
Haddited GAIN value of CH4 Please refer to this instruction sheet when setting OFFSET and GAIN. #28 H 401C RW Adjusted GAIN value of CH5 Please refer to this instruction sheet when setting OFFSET and GAIN. #29 H 401D RW Adjusted GAIN value of CH5 Register for storing all error status. See the table of error status for more information. #30 H 401E R Error status Register for storing all error status. See the table of error status for more information. #31 H 401F RW Refire thing Communication address setting For setting up communication speed: 4,800 / 9,600 / 19,200 / 38,400 / 57,600 / 115,200 bps #32 H 4020 RW Refurst a setting Communication speed (baud rate) setting Communication speed (baud rate) setting Setting up communication speed: 4,800 / 9,600 / 19,200 / 38,400 / 57,600 / 115,200 bps #33 H 4020 RW Refurst to default setting: OFFSET/GAIN Dist 34,400 bps b5: 115,200 bps Dist 51,512,00 bps #33 H 4021 RW Refurn to default setting: OFFSET/GAIN tuning authorization Refurn to default setting: OFFSET/GAIN tuning. O Forbidden; 1 = allowed (default) #33 H 4022 R Firmware version Firmware version Displaying the current firmware version in hex, e.g. version 1.	#27	H 401B		R/W							
#28 H 401C RW Adjusted GAIN value of CH5 #29 H 401D RW Adjusted GAIN value of CH6 #30 H 401E R Error status Register for storing all error status. See the table of error status for more information. #31 H 401F RW RW Communication address setting For setting RS-485 communication address. Range: 01 ~ 255. Default = K1 #31 H 401F RW RW Communication speed (baud rate) setting up communication speed: 4,800 / 9,600 / 19,200 / 38,400 / 57,600 / 115,200bps #32 H 4020 RW Refurn to default (baud rate) setting For setting up communication speed: 4,800 / 9,600 / 19,200 / 38,400 / 57,600 / 115,200bps #33 H 4020 RW Refurn to default (baud rate) setting For setting up communication speed (baud format: 7-bit, even bit, 1 stop bit (7, E, 1) #33 H 4021 RW Refurn to default setting; OFFSET/GAIN tube bit setwice ASCI/RTU mode. b15 Switch between ASCI/RTU mode. b15 b14 [b13] b12 [b11] b10 [b3 b18 b7] b6 [b5] b4 [b3] b2 [b1] b1 b1 [b1 Return to default] c. b1: OFFSET/GAIN tuning. 0 = forbidden; 1 = allowed (default) #33 H 4021 RW Return to default setting; OFFSET/GAIN tuning. 0 = forbidden; 1 = allowed (default) c. b1: OFFSET/GAIN tuning.		11 4010		1011							
#29 H 401D RW Adjusted GAIN value of CH6 #30 H 401E R Error status Register for storing all error status. See the table of error status for more information. #31 H 401F RW Communication address setting For setting RS-485 communication address. Range: 01 ~ 255. Default = K1 #33 H 401F RW Communication address setting For setting up communication speed: 4,800 / 9,600 / 19,200 / 38,400 / 57,600 / 115,200bps #34 H 4020 RW Register for storing all error status. See the table of error status for more information. #33 H 4021 RW Register for storing all error status. See the table of error status for more information. #33 H 4021 RW Return to default setting: OFFSET/GAIN tuning authorization For setting up communication speed b14: High/low bit exchange of CRC checksum (only valid in RTU mode). #33 H 4021 RW Return to default setting: OFFSET/GAIN tuning authorization CH6 CH5 CH4 CH3 CH2 CH1 #34 H 4022 R Firmware version Switch for upper/lower bound alarm on the input value for the channel. Gisabled; 1 = enabled (default) #34 H 4022 R Firmware version Displaying the current firmware version in hex, e.g. version 1.00 is indicated as H00.0	#28	H 401C	0	R/W							
#30 H 4015 H 4016 H 4017 H 4020											
 #30 H 401E × R EIRO status information. #31 H 401F · RW Communication address setting #32 H 4020 · RW Communication speed (baud rate) setting #34 H 4021 · RW Return to default setting; OFFSET/GAIN tuning authorization #35 H 4022 · R Firmware version #36 H 4022 · R Firmware version 	#29	H 401D	0	R/W							
#31 H 401F R/W Communication address setting For setting RS-485 communication address. Range: 01 ~ 255. Default = K1 #33 H 4020 R/W R/W For setting up communication speed: 4,800 / 9,600 / 19,200 / 38,400 / 57,600 / 115,200bps ASCII data format: 7-bit, even bit, 1 stop bit (7, E, 1) RTU data format: 8-bit, even bit, 1 stop bit (8, E, 1) #32 H 4020 R/W Communication speed (baud rate) setting Communication speed (baud rate) setting b0: 4,800bps b1: 9,600bps (default) b2: 19,200bps b3: 38,400bps b1: 9,600bps (b2; 115,200bps) b2: 19,200bps b3: 38,400bps #33 H 4021 R/W Return to default setting; OFFSET/GAIN tuning authorization Return to default setting; OFFSET/GAIN tuning authorization Return to default setting; OFFSET/GAIN tuning authorization CH6 CH5 CH4 CH3 CH2 CH1 #34 H 4022 R R Firmware version Displaying the current firmware version in hex, e.g. version 1.00 is indicated as H0100.	#30	H 401E	\sim	R	Error status						
 #31 H 401F O RW setting #401F O RW setting #32 H 4020 P RW setting #32 H 4020 P RW setting #33 H 4021 P RW Return to default setting; #4021 P RW P RW Return to default setting; PFSET/GAIN tuning; PFSET/GAIN tuning;	#30	11401	\cap	IX.		information.					
#32 H 4020 R/W Communication speed (baud rate) setting For setting up communication speed: 4,800 / 9,600 / 19,200 / 38,400 / 57,600 / 115,200bps #32 H 4020 R/W Communication speed (baud rate) setting ASCII data format: 7-bit, even bit, 1 stop bit (7, E, 1) #33 H 4021 R/W Return to default setting; OFFSET/GAIN tuning authorization Switch for upper/lower bound alarm on the input value for the channel. C #33 H 4021 R/W Return to default setting; OFFSET/GAIN tuning authorization Chi S witch for upper/lower bound alarm on the input value for the channel. C #34 H 4022 R Firmware version Firmware version Displaying the current firmware version in hex, e.g. version 1.00 is indicated as H000.	#31	H 401F	0	R/W		For setting RS-485 communication address. Range: 01 ~ 255. Default = K1					
#32 H 4020 R/W Communication speed (baud rate) setting ASCII data format: 7-bit, even bit, 1 stop bit (7, E, 1) RTU data format: 8-bit, even bit, 1 stop bit (8, E, 1) #33 H 4021 R/W Communication speed (baud rate) setting Between ASCII/Atta format: 8-bit, even bit, 1 stop bit (7, E, 1) #33 H 4021 R/W Return to default setting; OFFSET/GAIN tuning authorization Return to default setting; OFFSET/GAIN tuning authorization CH3 CH3 CH3 CH3 CH3 CH3 CH3 CH4 CH3 CH2 CH1 #34 H 4022 R R Firmware version Firmware version Displaying the current firmware version in hex, e.g. version 1.00 is indicated as H000.					Joetang	For setting up communication speed: 4 800 / 9 600 / 19 200 / 38 400 / 57 600 /					
#32 H 4020 RW RW Communication speed (baud rate) setting ASCII data format: 7-bit, even bit, 1 stop bit (7, E, 1) #33 H 4021 RW RW Communication speed (baud rate) setting State that the setting of CRC checksum (only valid in RTU mode) #33 H 4021 RW Return to default setting; OFFSET/GAIN tuning authorization State that the setting of CH1 for example: 1 #33 H 4021 RW RW Return to default setting; OFFSET/GAIN tuning authorization State the setting of CH1 for example: 1 **** H 4022 RW Rimware version Firmware version Displaying the current firmware version in hex, e.g. version 1.00 is indicated as tho of 0.00 in the setting in the											
#32 H 4020 RW Communication speed (baud rate) setting RTU data format: 8-bit, even bit, 1 stop bit (8, E, 1) #32 H 4020 RW Communication speed (baud rate) setting Provide the setting of the setting of the setting of the setting of the set of the setting of the set of the setting of the set of the setting of the setting of the set of the setting setting of the setting of the setting of the											
#32 H 4020 R/W Communication speed (baud rate) setting b0: 4,800bps b1: 9,600bps (default) b2: 19,200bps b3: 38,400bps b4: 57,600bps b5: 115,200bps b6 ~ b13: reserved b14: High/low bit exchange of CRC checksum (only valid in RTU mode) b15: Switch between ASCII/RTU mode. #33 H 4021 R/W Return to default setting; OFFSET/GAIN tuning authorization tuning authorization Return to default setting; OFFSET/GAIN tuning authorization CH6 CH5 CH4 CH3 CH2 CH1 #33 H 4021 R Rrw Return to default setting; OFFSET/GAIN tuning authorization CH6 CH5 CH4 CH3 CH2 CH1 #34 H 4022 R R Firmware version Firmware version Displaying the current firmware version in hex, e.g. version 1.00 is indicated as H00.0											
 #32 H 4020 RW (baud rate) setting #33 H 4021 RW Provide a setting of the setting of t											
#33 H 4021 R/W Return to default setting: OFFSET/GAIN tuning authorization Return to default setting: OFFSET/GAIN tuning authorization b1: 57,600bps b5: 115,200bps b6 ~ b13: reserved b14: High/low bit exchange of CRC checksum (only valid in RTU mode) b15: Switch between ASCII/RTU mode. #33 H 4021 R/W Return to default setting: OFFSET/GAIN tuning authorization Return to default cH6 CH5 CH4 CH3 CH2 CH1 Take the setting of CH1 for example: 1. b0: switch for upper/lower bound alarm on the input value for the channel. (a e isabled; 1 = enabled (default) 2. b1: OFFSET/GAIN tuning. 0 = forbidden; 1 = allowed (default) 3. When b12 ~ b15 = 1, all values in CH1 ~ CH6 will return to default settings b12 ~ b15 will return to 0 automatically after the setting is completed. #34 H 4022 R Firmware version Displaying the current firmware version in hex, e.g. version 1.00 is indicated at H00.	#32	H 4020	0	R/W							
#33 H 4021 O R/W Return to default setting; OFFSET/GAIN tuning authorization Return to default setting; OFFSET/GAIN tuning authorization Return to default setting; OFFSET/GAIN tuning authorization Between ASCII/RTU mode. #34 H 4022 O R Firmware version Firmware version					(baud rate) setting						
#33 H 4021 O R/W Return to default setting; OFFSET/GAIN tuning authorization b14: High/low bit exchange of CRC checksum (only valid in RTU mode). #33 H 4021 O R/W Return to default setting; OFFSET/GAIN tuning authorization b15: b14 b13 b12 b11 b10 b9 b8 b7 b6 b5 b4 b3 b2 b1 b #33 H 4021 O R/W Return to default setting; OFFSET/GAIN tuning authorization 1. b0: switch for upper/lower bound alarm on the input value for the channel. I allowed (default) #34 H 4022 O R Firmware version Displaying the current firmware version in hex, e.g. version 1.00 is indicated a H0100.											
#33 H 4021 O R/W Return to default setting: OFFSET/GAIN tuning authorization b15: Switch between ASCII/RTU mode. #33 H 4021 O R/W Return to default setting: OFFSET/GAIN tuning authorization b15: b14 b13 b12 b11 b10 b9 b8 b7 b6 b5 b4 b3 b2 b1 b #34 H 4022 O R Firmware version Firmware version						b6 ~ b13: reserved					
#33 H 4021 R/W Return to default setting; OFFSET/GAIN tuning authorization b15 b14 b13 b12 b11 b10 b9 b8 b7 b6 b5 b4 b3 b2 b1 b #33 H 4021 R/W Return to default setting; OFFSET/GAIN tuning authorization Return to default CH6 CH3 CH3 CH2 CH1 1 b0: switch for upper/lower bound alarm on the input value for the channel. a clasabled; 1 = enabled (default) 2. b1: OFFSET/GAIN tuning. 0 = forbidden; 1 = allowed (default) 3. When b12 ~ b15 = 1, all values in CH1 ~ CH6 will return to default settings b12 ~ b15 will return to 0 automatically after the setting is completed. #34 H 4022 R Firmware version Displaying the current firmware version in hex, e.g. version 1.00 is indicated a H0100.						b14: High/low bit exchange of CRC checksum (only valid in RTU mode)					
#33 H 4021 R/W Return to default setting; OFFSET/GAIN tuning authorization Return to default CH6 CH5 CH4 CH3 CH2 CH1 #34 H 4022 R Firmware version Rimmare version Return to default current firmware version in hex, e.g. version 1.00 is indicated au H000.						b15: Switch between ASCII/RTU mode.					
#33 H 4021 R/W Return to default setting; OFFSET/GAIN tuning authorization Take the setting of CH1 for example: 1 b0: switch for upper/lower bound alarm on the input value for the channel. (a disabled; 1 = enabled (default) 2 b1: OFFSET/GAIN tuning. 0 = forbidden; 1 = allowed (default) 3 When b12 ~ b15 = 1, all values in CH1 ~ CH6 will return to default settings b12 ~ b15 will return to 0 automatically after the setting is completed. #34 H 4022 R											
#33 H 4021 R/W Return to default setting; OFFSET/GAIN tuning authorization 1. b0: switch for upper/lower bound alarm on the input value for the channel. (a disabled; 1 = enabled (default) #33 H 4021 R/W R/W Return to default setting; OFFSET/GAIN tuning authorization 1. b0: switch for upper/lower bound alarm on the input value for the channel. (a disabled; 1 = enabled (default) 1. b0: switch for upper/lower bound alarm on the input value for the channel. (a disabled; 1 = enabled (default) 2. b1: OFFSET/GAIN tuning. 0 = forbidden; 1 = allowed (default) 3. When b12 ~ b15 = 1, all values in CH1 ~ CH6 will return to default settings b12 ~ b15 will return to 0 automatically after the setting is completed. #34 H 4022 R Firmware version Displaying the current firmware version in hex, e.g. version 1.00 is indicated at H0100.						Return to default CH6 CH5 CH4 CH3 CH2 CH1					
 #33 H 4021 Construction of the base of the charment of the input value for the charment of the ch					Deturn to d-f-ult	Take the setting of CH1 for example:					
#34 H 4022 R Firmware version Einstance, if a entable (default) #34 H 4022 R Firmware version	#33	H 4021		R/M							
#34 H 4022 R Firmware version 2. b1: OFFSET/GAIN tuning. 0 = forbidden; 1 = allowed (default) 3. When b12 ~ b15 = 1, all values in CH1 ~ CH6 will return to default settings b12 ~ b15 will return to 0 automatically after the setting is completed. #34 H 4022 R Firmware version	#33	H 4021		17/11							
#34 H 4022 R Firmware version Displaying the current firmware version in hex, e.g. version 1.00 is indicated as H0100.						b1: OFFSET/GAIN tuning. 0 = forbidden; 1 = allowed (default)					
#34 H 4022 C R Firmware version Displaying the current firmware version in hex, e.g. version 1.00 is indicated as H0100.						3. When b12 ~ b15 = 1, all values in CH1 ~ CH6 will return to default settings					
H14022 O K Printiwale version H0100.											
H0100.	#34	H 4022	0	R	Firmware version						
			-		For system use	HU1UU.					

Symbols

: latched (when written in through RS-485 communication)

X: non-latched R: Able to read data by FROM instruction or RS-485 communication

W: Able to write data by TO instruction or RS-485 communication

LSB (Least Significant Bit): 1. For voltage input $1_{LSB} = 10V/8,000 = 1.25mV$ 2. For current input $1_{LSB} = 20mA/4,000 = 5\mu A$

Explanations

- 1. CR#0: Model name. The user can read the model name from the program and see if the extension module exists.
- 2. CR#1: The working mode of the 6 channels in the analog input module. There are 4 modes for each channel which can be set up separately. For example, if the user needs to set up CH1: mode 0 ($b2 \sim b0 = 00$) and CH2: mode 1 ($b5 \sim b3 = 01$). CH3: mode 2 ($b8 \sim b6 = 10$). CH4: mode 3 ($b11 \sim b9 = 11$). CH5: mode 0 ($b11 \sim b9 = 11$). 00), CH6: mode 1 (b11 ~ b9 = 01), CR#1 has to be set as H04EA and the higher bits (b12 ~ b15) have to be reserved. Default value = H0000.
- 3. CR#2 ~ CR#4: The settings of average times of the signals at CH1 ~ CH6. Range: K1 ~ K20. For example, if the average time at CH1 is to be set as K10 and CH2 as K18, CR#2 has to be set as H120A. CR#3 ~ 4 apply the same rule. The default setting of each channel = K10
- 4. CR#5: reserved.
- 5. CR#6 ~ CR#11: The average of the signals at CH1 ~ CH6 obtained from the settings in CR#2 ~ CR#4. For example, if the settings in CR#2 ~ CR#4 is 10, the content in CR#6 ~ CR#11 will be the average of the most recent 10 signals at CH1 ~ CH6
- 6. CR#12 ~ CR#17: The present value of input signals at CH1 ~ CH6.

7. CR#18 ~ CR#23: The adjusted OFFSET value of CH1 ~ CH6, representing the analog input voltage or current when the analog signal is converted into digital value 0.

The adjustable range of voltage: $-5V \sim +5V (-4,000_{LSB} \sim +4,000_{LSB})$ The adjustable range of current: $-20\text{mA} \sim +20\text{mA}(-4,000_{LSB} \sim +4,000_{LSB})$

8. CR#24 ~ CR#29: The adjusted GAIN value of CH1 ~ CH6, representing the analog input voltage or current when the analog signal is converted into digital value 4.000.

The adjustable range of voltage: $-4V \sim +20V (-3,200_{ISB} \sim +16,000_{ISB})$

The adjustable range of current: $-16mA \sim +52mA (-3,200_{LSB} \sim +10,400_{LSB})$

Please note that: GAIN value – OFFSET value = $+800_{LSB} \sim +12,000_{LSB}$ (voltage) or $+800_{LSB} \sim +6,400_{LSB}$ (current) When GAIN - OFFSET is small (steep oblique), the resolution of input signal will be finer and variation on the digital value will be greater. When GAIN - OFFSET is big (gradual oblique), the resolution of input signal will be rougher and variation on the digital value will be smaller

9. CR #30: Error status value (See the table below)

Error status	Content	b15 ~ b8	b7	b6	b5	b4	b3	b2	b1	b0
Abnormal power supply	K1(H1)		0	0	0	0	0	0	0	1
Incorrect analog input value	K2(H2)		0	0	0	0	0	0	1	0
Incorrect mode setting	K4(H4)		0	0	0	0	0	1	0	0
Offset/Gain error	K8(H8)		0	0	0	0	1	0	0	0
Hardware malfunction	K16(H10)	reserved	0	0	0	1	0	0	0	0
Abnormal digital range	K32(H20)		0	0	1	0	0	0	0	0
Incorrect average times setting	K64(H40)		0	1	0	0	0	0	0	0
Instruction error	K128(H80)		1	0	0	0	0	0	0	0

Note: Each error status is determined by the corresponding bit (b0 ~ b7) and there may be more than 2 errors occurring at the same time. 0 = normal: 1 = error

10. CR#31: The setting of RS-485 communication address (Range: 01 ~ 255, default = K1).

11. CR#32: The setting of RS-485 communication speed. b0: 4,800bps; b1: 9,600bps (default); b2: 19,200bps; b3: 38,400bps; b4: 57,600bps; b5: 115,200bps; b6 ~ b13: reserved; b14: high/low bit exchange of CRC checksum (only valid in RTU mode); b15 = switch between ASCII/RTU mode

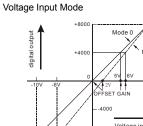
12. CR#33:

- 1. The setting of whether the alarm indicator will flash when the input value exceeds upper/lower bound; for authorizations on OFFSET/GAIN tuning; returning CH1 ~ CH6 to default values.
- 2. CR for input mode, setting of average times, OFFSET value and GAIN value will be reset after returning to default settings.
- 13. CR#34: Firmware version of the model
- 14. CR#35 ~ CR#48: Parameters for system use.
- 15. CR#0 ~ CR#48: The corresponding parameter addresses H 4000 ~ H 4030 are for users to read/write data by RS-485 communication. When using RS-485, the user has to separate the module with MPU first.
 - a. Communication baud rate: 4,800/9,600/19,200/38,400/57,600/115,200bps
 - b. Modbus ASCII/RTU communication protocols: ASCII data format (7-bit, even bit, 1 stop bit (7, E, 1)); RTU data format (8-bit, even bit, 1 stop bit (8, E, 1)).
 - c. Function codes: 03H (read register data); 06H (write 1 word datum to register); 10H (write many word data to register)

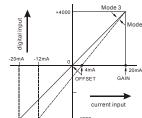
d. Latched CR should be written by RS-485 communication to stay latched. CR will not be latched if written by MPU through TO/DTO instruction.

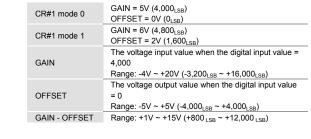
• Adjusting A/D Conversion Curve

5.1 Explanation









CR#1 mode 2	GAIN = 20mA (4,000 _{LSB}) OFFSET = 4mA (800 _{LSB})
CR#1 mode 3	GAIN = 20mA (4,000 _{LSB}) OFFSET = 0mA (0 _{LSB})
GAIN	The current input value when the digital input value = $+4,000$ Range: -16 mA ~ $+52$ mA ($-3,200_{LSB}$ ~ $+10,400_{LSB}$)
OFFSET	The current input value when the digital input value = 0 Range: -20mA ~ +20mA (-4,000 _{LSB} ~ +4,000 _{LSB})
GAIN - OFFSET	Range: +4mA ~ +32mA (800 _{1SB} ~ +6,400 _{1SB})

The user can adjust the OFFSET/GAIN curves according to the actual needs by changing the OFFSET value (CR#18 ~ CR#23) and GAIN value (CR#24 ~ CR#29).

5.2 Program Example

Example 1: Set the OFFSET value of CH1 as 0V (= K0_{LSB}) and GAIN value as 2.5V (= K2,000_{LSB})

M1002			
	то	К0	
	то	К0	ŀ
X0	-		
⊢îŤ⊢⊤	то	K0	٢
	то	К0	ł

Example 2: Set the OFFSET va

M1002				_
	то	К0	K1	H8
	то	K0	K33	HAAA
X0				
-ÎŤ	то	K0	K19	K400
	то	K0	K25	K3600
				-

* LED Display

- 1. second
- . 19.5V
- will flash
- instruction
- ERROR LED will flash.

Program Example

	M100
	=

- Read the model name from I
- If D0 = HC8 set the input mo
- Set the average times in CH1
- Read the average of input sig

78 D

Relevant Instru FROM

Instruction Explanation	(m1): N (D): D		
Program	time (n		of speci
Example		11	FROM
API 79 D	то	Ρ	(m1)
Instruction Explanation	(m1: N (S): D		
Program Example	modue		Struction Only 1
	I		

K0

K2

D10

K1

LSB refers to "least significant bit": In voltage input, 1_{LSB}=10V/8000=1.25mV; in current input, 1_{LSB}=20mA/4000=5µA

K1	H0	K1	 Write H0 into CR#1 of analog input module No. 0 and set CH1 in mode 0 (voltage input -10V ~ +10V)
K33	HAAA	K1	 Write HAAA into CR#33 and allow OFFSET/GAIN tuning in CH1 ~ CH6.
K18	К0	K1	When X0 goes from Off to On, write the OFFSET value
	•		K0 _{LSB} into CR#18 and the GAIN value K2,000 _{LSB} into
K24	K2000	K1	CR#24.
alue o	of CH2 a	s 2mA (= K400 _{LSB}) and GAIN value as18mA (= K3,600 _{LSB})
K1	H8	K1	Write H8 into CR#1 of analog input module N0. 0 and set CH2 in mode 3 (current input -20mA ~ +20mA)
K33	HAAA	K1	Write HAAA into CR#33 and allow OFFSET/GAIN tuning in CH1 ~ CH6.
K19	K400	K1	• When X0 goes from Off to On write the OFFSET value

When X0 goes from Off to On, write the OFFSET value K400_{LSB} into CR#19 and the GAIN value K3,600_{LSB} into CR#25

O Trial Operation & Troubleshooting

K1

When the module is powered for the first time, POWER LED will be on and ERROR LED will be on for 0.5

2. When the power supply is normal, POWER LED will be on and ERROR LED should be off. When the power supply is less than 19.5V, ERROR LED will keep being on until the power supply is higher than

3. When the module is connected to PLC MPU in series, the RUN LED on the MPU will be on and A/D LED

4. When controlled by RS-485, the A/D LED on the module will flash after receiving the first RS-485

5. When the input or output value exceeds the upper bound or falls below the lower bound after conversion,

00	FROM	К0	К0	D0	K1	
02 	то	К0	K1	HA50	K1	
	то	К0	К2	H1414	K1]
HC8 D0	FROM	K0	K6	D20	K6]
	END					
0 and see if it is DV	'P06AD-	S: HC8				
des: (CH1, CH2) mode 0, (CH3, CH4) mode 1, (CH5, CH6) mode 2.						
and CH2 as K20.						
gnals at CH1 \sim CH6 from CR#6 \sim CR#11 and store the 6 data in D20 \sim D25.						
uctions						
m1 m2 D n Read CR data in special modules						
cial module (m1 = 0 ~ 7) (m2): CR# in special module to be read						
storing read data Number of data to be read at a time						
special modile No. 0 into D0 and CR#25 into D1. Only 2 groups of data is read at a						

ROM	К0	K24	D0	K2	
<u>m1</u>	(m ₂)	S	n	Write	e CR data into special modules
cial module (m1 = 0 ~ 7) (m2): CR# in special module to be written written into CR (n): Number of data to be written at a time					
uction DTO to write the content in D11 and D10 into CR#3 and CR#2 of special only 1 group of data is written in at a time $(n = 1)$					

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