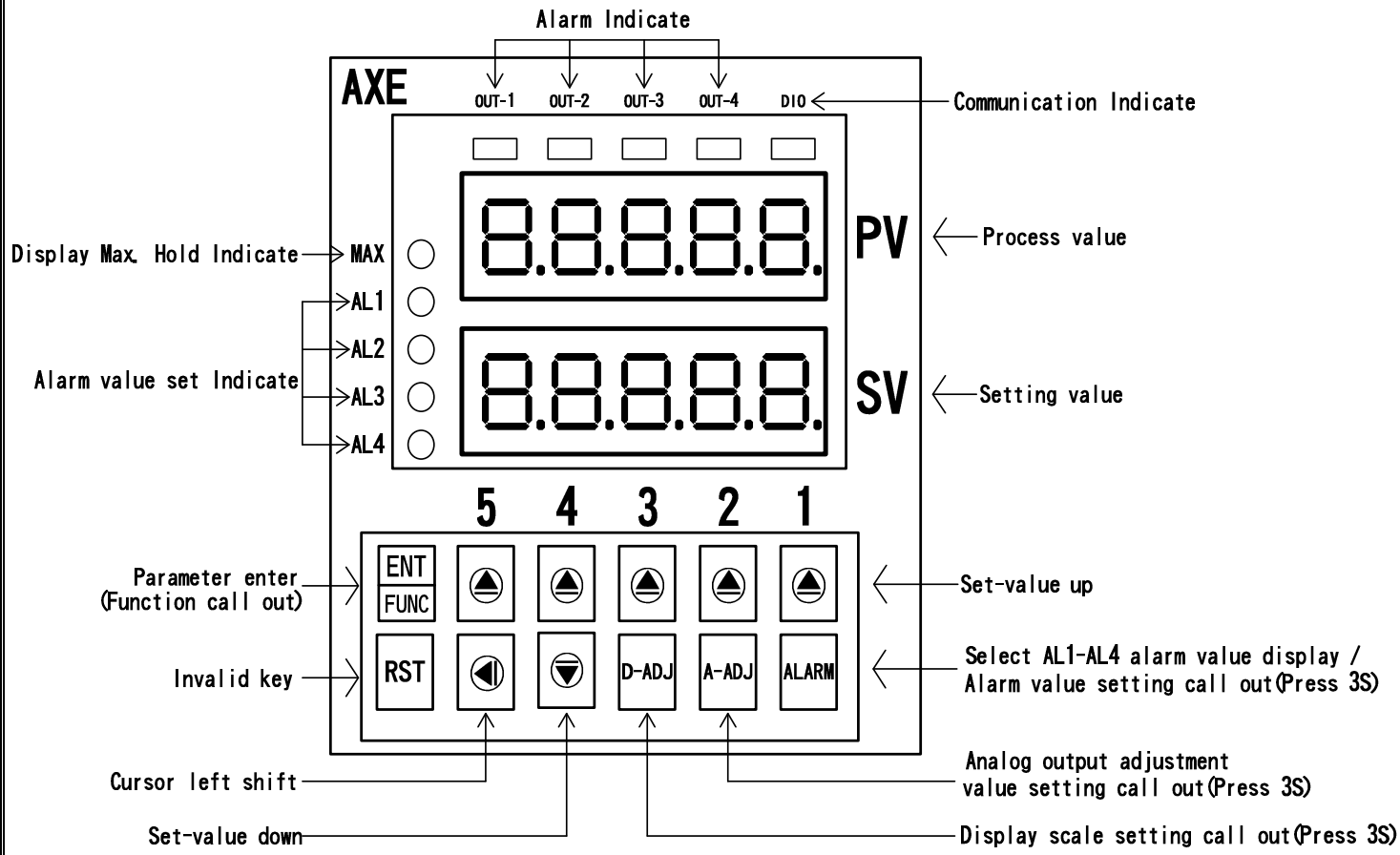
AXE Multi-function microprocess RPM & Line-speed controller meter(72x72mm) MR726 Series

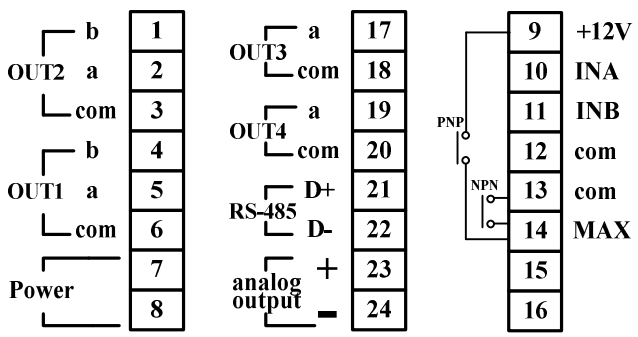
■ Features

◎Accept more type sensors(switch,encoder,proximity switch,…etc)finish RPM/LINE SPEED transmit
◎Accuracy 0.03% F.S.
◎Accept input rates up to 200KHz
◎Readout range(-19999~99999)
◎RPM/LINE or LINE-SPEED unit can be modified
◎Daul input math function, (B-A, (B/A)*100, (B/A-1)*100, (B/(A+B))*100, (1-B/A)*100)
◎Input pulse of revolution can be modified(1~99999)
◎Diameter(LINE-SPEED)/scale(RPM) can be modified (0.0001~9.9999)
◎NPN/PNP count input type can be modified
◎16BIT DAC analog output can be modified,
◎Four alarm function
◎0.4" highlight display
◎RS485 Communication interface,Protocol MODBUS RTU MODE
◎BAUD RATE:19200/9600/4800/2400
◎Decimal point can be modified
◎Man-machine interface,easy to operate
◎EEPROM Saving,data safekeeping about 10 years
◎Modified inside parameter,must have pass code
◎Protection class NEMA4/IP67

■ Name Of Parts



■ Connection Diagram



Key Introduce	Operation Manual
㊎Key Function	1. In normal display, The key function is call out setting group 2. In parameter setting page, The key function is data Enter , and goto next page
ALARM Key Function	In normal display, 1. call out AL1 setting page(Press key about 3 sec) 2. select AL1~AL4 alarm value display in SV(Press key about 0.2 sec)
D-ADJ Key Function	In normal display, call out SCL-A & SCL-B setting page(Press key about 3 sec)
A-ADJ Key Function	In normal display, call out Azero & Aspan setting page(Press key about 3 sec)
RST Key Function	Invalid key
◀Key Function	Into parameter setting page,the parameter mark&data is alternate display,If need modify data can press ◀ key into setting procedure,The display is lock parameter data, this time must let off key about 0.2 sec,press again,the cursor(twinkle express)is cycle moving left.(Key Response about 0.2 sec)
Each ▲Key Function	Into parameter setting page, the parameter mark&data is alternate display, If need modify data can press each ▲ key into setting procedure, The display is lock parameter data, this time must let off key about 0.2 sec, press again, the parameter data will increment. (Key Response about 0.2 sec)
▼Key Function	Into parameter setting page, the parameter mark&data is alternate display, If need modify data can press ▼ key into setting procedure, The display is lock parameter data, this time must let off key about 0.2 sec, press again the parameter data will decrement. (Key Response about 0.2 sec)
◀&▼Key Function	In setting group or setting page,Press ◀&▼ key return normal display, but if in setting page the modify data will be lost
No Key in anything	In setting group or setting page no key in anything about 2 minutes, return normal display

■ Inside parameter operate procedure

Step	Parameter Mark Description	Parameter Mark	Operation Manual
1	Normal display	12345	Press ㊎/FUNC key into P.CODE setting page
2	P.CODE(Pass code input page) Default=0	P.CodE 00000	1.Key in 5 digit pass code with per digital ▲&▼&◀key 2.Press ㊎key, If the pass code is correct then into setting group,otherwise return normal display
3	SYS(System Setting Group)	SYS	1.Select setting group with ◀key 2.Press ㊎key into setting page of selection setting group
	ROP(Alarm output Setting Group)	roP	
	AOP(Analog output Setting Group)	AoP	
	DOP(Communication setting group)	doP	
4	SYS(System setting group)	SYS	1.Press ◀key decide SYS setting group , Press ㊎key into Dp setting page
4-1	DP(Decimal Point setting page) Default = 0	dP 0	1.Decide decimal point position with digital 1 ▲&▼key (0 to 4) 2.Press ㊎ key enter data and into C-I-T setting page
4-2	C-I-T(Count Input Type) Default = NPN	C-I-t nPn	1.Decide Count Input Type with digital 1▲&▼key (NPN, PNP) 2. Press ㊎ key enter data and into C-R-S setting page
4-3	C-R-S(Count Rates Select) Default = 200KHz	C-r-S 200H	1.Decide Count Rates Select with digital 1▲&▼key (50Hz,200KHz) 2. Press ㊎ key enter data and into TYPE setting page
4-4	TYPE(Display Type) Default = RPM	tYPE rPn	1.Decide display type with digital 1 ▲&▼key(RPM/LINE) 2.Press ㊎ key enter data,If select LINE into step 4-5 UNIT setting page, otherwise into step 4-6 PPR-A setting page
4-5	UNIT(Line Speed Unit) Default = METER	Unit nEtEr	1.Decide line speed unit with digital 1 ▲&▼key (METER/FOOT/YARD) 2.Press ㊎ key enter data and into PPR-A setting page
4-6	PPR-A(Pulse Per Revolution of input A) Default = 1	PPr-A 0001	1.Decide pulse per revolution of input A with per digital ▲&▼&◀key (1~99999) 2.Press ㊎ key enter data and into PPR-B setting page
4-7	PPR-B(Pulse Per Revolution of input B) Default = 1	PPr-b 0001	1.Decide pulseper revolution of input B with per digital ▲&▼&◀key (1~99999) 2.Press ㊎ key enter data and into MODE setting page

4-8	MODE(Mode) Default = A	mode A	1.Decide display mode with digital 1▲&▼key A (Display value of input A) B (Display value of input B) B-A (Display value of B-A) (B/A)x100 (display value of (B/A)*100) (B/A-1)x100 [display value of ((B/A)-1)*100] (B/(A+B))x100 [display value of (B/(A+B))x100] (1-B/A)x100 [display value of (1-(B/A))*100] 1A2B (Display value of input +A)(A lead B)(Max.25KHz) (Display value of input -A)(B lead A)(Max.25KHz) 2.Press EN key enter data and into TBASE setting page
4-9	TBASE (Sampling Time Base) Defaul t = 0.1	tbASE 00.1	1.Decide sampling time base with digital 1~3▲&▼&◀key (0.1~99.9sec) 2.Press EN key enter data and into AVG setting page
4-10	AVG (Display Average times) Default = 5	AuG 05	1.Decide display average times with digital 1~2▲&▼&◀key(1~99) 2.Press EN key enter data and into CODE setting page
4-11	CODE(Pass Code) Default = 0	Code 00000	1.Decide pass code with per digital ▲&▼&◀key(0~99999) 2.Press EN key enter data and into LOCK setting page
4-12	LOCK(Panel Lock) Default = NO	LoCK no	1.Decide panel lock with digital 1 ▲&▼key(NO or YES) 2.Press EN key enter data and return SYS setting group
5	ROP(Alarm setting group)	rop	1.Press ◀key decide ROP setting group 2.Press EN key into ACT1 setting page
5-1	ACT1(Alarm 1 Active) Default=HI	ACt 1 Hi	1. Decide Alarm 1 Active with digital 1 ▲&▼key(HI or LO) 2.Press EN key enter data and into ACT2 setting page
5-2	ACT2(Alarm 2 Active) Default=HI	ACt2 Hi	1. Decide Alarm 2 Active with digital 1 ▲&▼key(HI or LO) 2.Press EN key enter data and into ACT3 setting page
5-3	ACT1(Alarm 3 Active) Default=HI	ACt3 Hi	1. Decide Alarm 3 Active with digital 1 ▲&▼key(HI or LO) 2.Press EN key enter data and into ACT4 setting page
5-4	ACT2(Alarm 4 Active) Default=HI	ACt4 Hi	1. Decide Alarm 4 Active with digital 1 ▲&▼key(HI or LO) 2.Press EN key enter data and into HYS1 setting page
5-5	HYS1(Alarm 1 Hysteresis) Default=0	HYS 1 000	1. Decide HYS1 with digital 1~3 ▲&▼&◀key (0~999) 2. Press EN key enter data and into HYS2 setting page
5-6	HYS2(Alarm 2 Hysteresis) Default=0	HYS2 000	1. Decide HYS2 with digital 1~3 ▲&▼&◀key (0~999) 2. Press EN key enter data and into HYS3 setting page
5-7	HYS3(Alarm 3 Hysteresis) Default=0	HYS3 000	1. Decide HYS3 with digital 1~3 ▲&▼&◀key (0~999) 2. Press EN key enter data and into HYS4 setting page
5-8	HYS4(Alarm 4 Hysteresis) Default=0	HYS4 000	1. Decide HYS4 with digital 1~3 ▲&▼&◀key (0~999) 2. Press EN key enter data and into DEL1 setting page
5-9	DEL1(Alarm 1 Delay time) Default=0	dEL 1 00	1. Decide DEL1 with digital 1~3 ▲&▼&◀key (-99.9~99.9 sec) 2. Press EN key enter data and into DEL2 setting page Note:-0.1 ~ -99.9 sec = Alarm active time 0.1 ~ 99.9 sec = Alarm delay time
5-10	DEL2(Alarm 2 Delay time) Default=0	dEL2 00	1. Decide DEL2 with digital 1~3 ▲&▼&◀key (-99.9~99.9 sec) 2. Press EN key enter data and into DEL3 setting page Note:-0.1 ~ -99.9 sec = Alarm active time 0.1 ~ 99.9 sec = Alarm delay time
5-11	DEL3(Alarm 3 Delay time) Default=0	dEL3 00	1. Decide DEL3 with digital 1~3 ▲&▼&◀key (-99.9~99.9 sec) 2. Press EN key enter data and into DEL4 setting page Note:-0.1 ~ -99.9 sec = Alarm active time 0.1 ~ 99.9 sec = Alarm delay time
5-12	DEL4(Alarm 4 Delay time) Default=0	dEL4 00	1. Decide DEL4 with digital 1~3 ▲&▼&◀key (-99.9~99.9 sec) 2. Press EN key return ROP setting page Note:-0.1 ~ -99.9 sec = Alarm active time 0.1 ~ 99.9 sec = Alarm delay time g group

6	AOP(Analog output setting group)	AoP	Press ◀ key decide AOP setting group , press ENT key into ANLO setting page
6-1	ANLO(A/O Zero According to Display setting page) Default = 0	AnLo 00000	1.Decide ANLO with per digital ▲&▼&◀key(-19999~99999) 2.Press ENT key enter data and into ANHI setting page
6-2	ANHI(A/ O Span According to Display setting page) Default = 99999	AnHi 99999	1.Decide ANHI with per digital ▲&▼&◀key(-19999~99999) 2.Press ENT key return AOP setting page
7	DOP(Communication setting group)	doP	press ◀ key decide DOP setting group,press ENT key into ADDR setting page
7-1	ADDR(Communication –Address setting page) Default = 0	Addr 000	1.Decide address with digital 1~3 ▲&▼&◀key(0~255) 2.Press ENT key enter data and into BAUD setting page
7-2	BAUD(Communication Baud Rate setting page) Default = 19200	bAUd 19200	1.Decide baud rate with digital 1 ▲&▼key(19200,9600,4800,2400) 2.Press ENT key enter data and into PARI setting page
7-3	PARI(Communication Parity Check setting page) Default = n82	PAri n.8.2.	1.Decide parity check with digital 1 ▲&▼key(n82,n81,even,odd) 2.Press ENT key enter data and return DOP setting group

■ Outside function key operate procedure

Step	Parameter mark description	Parameter mark	Operation manual
8	Normal display	12345	1.Press ALARM key about 3 sec, into AL1 setting page
8-1	AL1 (Alarm 1) Default=0	AL 1 00000	1.Decide AL1 with per digital ▲&▼&◀key (-19999~99999) 2. Press ENT key enter data and into AL2 setting page
8-2	AL2 (Alarm 2) Default=0	AL2 00000	1. Decide AL2 with per digital ▲&▼&◀key (-19999~99999) 2. P Press ENT key enter data and into AL3 setting page
8-3	AL3 (Alarm 3) Default=0	AL3 00000	1.Decide AL3 with per digital ▲&▼&◀key (-19999~99999) 2. Press ENT key enter data and into AL4 setting page
8-4	AL4 (Alarm 4) Default=0	AL4 00000	1. Decide AL4 with per digital ▲&▼&◀key (-19999~99999) 2. P Press ENT key enter data and return normal display

Step	Parameter mark description	Parameter mark	Operation manual
9	Normal display	12345	Press D-ADJ key about 3 sec, into SCL-A adjustment page
9-1	SCL-A (Display Scale A setting page) Default = 1.0000	SCL-A 1.0000	1.Decide scale A with per digital ▲&▼&◀key(0.0001~9.9999) 2. Press ENT key enter data and into SCL-B setting page
9-2	SCL-B (Display Scale B setting page) Default = 1.0000	SCL-b 1.0000	1.Decide scale B with per digital ▲&▼&◀key(0.0001~9.9999) 2.Press ENT key enter data and return normal display
10	Normal display	12345	1.Press A-ADJ key about 3 sec, into AZERO setting page
10-1	AZERO(Analog Output Zero Adjustment page) Default=0	AZEro 00000	1.Adjustment analog output zero with digital 1~4 ▲&▼&◀key(±6000) 2. Press ENT key enter data and into ASPAN adjustment page
10-2	ASPAN(Analog Output Span Adjustment page) Default=0	ASPAn 00000	1.Adjustment analog output span with digital 1~4 ▲&▼&◀key (±6000) 2. Press ENT key enter data and return normal display

Appendix	Error Mark description	Error Mark	Analyze & Description
1	Input over range error detect	i oFL	Input signal over range(0~200KHz)
2	Display over range error detect	doFL	Display over range(99999)
3	Display under range error detect	-doFL	Display under range (-19999)
4	EEPROM error detect	E-00 no YES	1.External interference when EEPROM read/write 2.EEPROM write over 100000 times (guarantee 10 years) Please power reset,if still display E-00,doing following step: 1.E-00 & No alternate display for inquire reset EEPROM 2.Decide Yes with ▲&▼key,press ENT key return normal display 3.EEPROM was reset,Please follow step 1~10 setting again

MR726(MAX) Modbus RTU Mode Protocol Address Map
Data format 16Bit/32Bit, sign bit 8000~7FFF(-32768~32767),80000000~7FFFFFFF(-2147483648~2147483647)

Address	Name	Description	Accept
0000	DISPM	SV display indicate,Input Range 0000~0003(0~3) (0:AL1, 1:AL2, 2:AL3, 3:AL4)	R/W
0001	DP	Decimal Point,Input Range 0000~0004 (0~4)(0:10^{0},1:10^{-1},2:10^{-2},3:10^{-3},4:10^{-4})	R/W
0002	TYPE	Display Type,Input Range 0000~0001 (0~1) (0:RPM,1:LINE)	R/W
0003	LOCK	Panel Lock,Input Range 0000~0001 (0~1)(NO/YES)	R/W
0004	C-I-T	Count Input Type,Input Range 0000~0001 (0~1) (0:NPN,1:PNP)	R/W
0005	C-R-S	Count Rates Select,Input Range 0000~0001 (0~1) (0:50Hz,1:200KHz)	R/W
0006	UNIT	Line Speed Unit,Input Range 0000~0002 (0~2) (0:METER,1:FOOT,2:YARD)	R/W
0007	MODE	Mode,Input Range 0000~0007 (0~7)(0:A,1:B,2:B-A,3: (B/A)x100,4: (B/A-1)x100,5: (B/(A+B))x100, 6: (1-B/A)x100), 7: 1A2B	R/W
0008	TBASE	Sampling Time Base,Input Range 0001~03E7 (0.1~99.9)	R/W
0009	AVG	Display Average times,Input Range 0001~0063 (1~99)	R/W
000A	ACT1	Alarm Active 1,Input Range 0000~0001(0~1) (0:HI,1:LO)	R/W
000B	ACT2	Alarm Active 2,Input Range 0000~0001(0~1) (0:HI,1:LO)	R/W
000C	ACT3	Alarm Active 3,Input Range 0000~0001(0~1) (0:HI,1:LO)	R/W
000D	ACT4	Alarm Active 4,Input Range 0000~0001(0~1) (0:HI,1:LO)	R/W
000E	HYS1	Alarm hysteresis 1,Input Range 0000~03E7 (0~999)	R/W
000F	HYS2	Alarm hysteresis 2,Input Range 0000~03E7 (0~999)	R/W
0010	HYS3	Alarm hysteresis 3,Input Range 0000~03E7 (0~999)	R/W
0011	HYS4	Alarm hysteresis 4,Input Range 0000~03E7 (0~999)	R/W
0012	DEL1	Alarm Delay 1,Input Range FC19~03E7 (-99.9~99.9)	R/W
0013	DEL2	Alarm Delay 2,Input Range FC19~03E7 (-99.9~99.9)	R/W
0014	DEL3	Alarm Delay 3,Input Range FC19~03E7 (-99.9~99.9)	R/W
0015	DEL4	Alarm Delay 4,Input Range FC19~03E7 (-99.9~99.9)	R/W
0016	ADDR	Communication Address,Input Range 0000~00FF (0~255)	R/W
0017	BAUD	Communication Baud Rate,Input Range 0000~0003 (0~3)(0:19200,1:9600,2:4800,3:2400)	R/W
0018	PARI	Communication Parity Check,Input Range 0000~0003 (0~3)(0:N82,1:N81,2:EVEN,3:ODD)	R/W
0019	A_ZERO	Analog Output Zero Adjust,Input Range E890~1770 (-6000~6000)	R/W
001A	A_SPAN	Analog Output Span Adjust,Input Range E890~1770 (-6000~6000)	R/W
001B	CODE	Pass Code,Input Range 00000000~0001869F (0~99999)high word	R/W
001C		Pass Code,Input Range 00000000~0001869F (0~99999)low word	R/W
001D	PPR-A	Pulse Per Revolution of input A,Input Range 00000001~0001869F (1~99999)high word	R/W
001E		Pulse Per Revolution of input A,Input Range 00000001~0001869F (1~99999)low word	R/W
001F	PPR-B	Pulse Per Revolution of input B,Input Range 00000001~0001869F (1~99999)high word	R/W
0020		Pulse Per Revolution of input B,Input Range 00000001~0001869F (1~99999)low word	R/W
0021	SCL-A	Display Scale A,Input Range 00000001~0001869F (0.0001~9.9999)high word	R/W
0022		Display Scale A,Input Range 00000001~0001869F (0.0001~9.9999)low word	R/W
0023	SCL-B	Display Scale B,Input Range 00000001~0001869F (0.0001~9.9999)high word	R/W
0024		Display Scale B,Input Range 00000001~0001869F (0.0001~9.9999)low word	R/W
0025	ANLO	Analog Output Zero According to Display,Input Range FFFFB1E1~0001869F (-19999~99999)high word	R/W
0026		Analog Output Zero According to Display,Input Range FFFFB1E1~0001869F (-19999~99999)low word	R/W
0027	ANHI	Analog Output Span According to Display,Input Range FFFFB1E1~0001869F (-19999~99999)high word	R/W
0028		Analog Output Span According to Display,Input Range FFFFB1E1~0001869F (-19999~99999)low word	R/W
0029	AL1	Alarm 1,Input Range FFFFB1E1~0001869F (-19999~99999)high word	R/W
002A		Alarm 1,Input Range FFFFB1E1~0001869F (-19999~99999)low word	R/W
002B	AL2	Alarm 2,Input Range FFFFB1E1~0001869F (-19999~99999)high word	R/W
002C		Alarm 2,Input Range FFFFB1E1~0001869F (-19999~99999)low word	R/W
002D	AL3	Alarm 3,Input Range FFFFB1E1~0001869F (-19999~99999)high word	R/W
002E		Alarm 3,Input Range FFFFB1E1~0001869F (-19999~99999)low word	R/W
002F	AL4	Alarm 4,Input Range FFFFB1E1~0001869F (-19999~99999)high word	R/W
0030		Alarm 4,Input Range FFFFB1E1~0001869F (-19999~99999)low word	R/W

0031	DISP	Display Value, Display Range FFFFB1E1~0001869F (-19999~99999)high word	R
0032		Display Value, Display Range FFFFB1E1~0001869F (-19999~99999)low word	R
0033	STATUS	Status,Display Range 0000~001F(0~31) Bit0:AL1,Bit1:AL2,Bit2:DOFL,Bit3:-DOFL,Bit4:IOFL 0000~007F(0~127)Bit0:AL1,Bit1:AL2,Bit2:AL3,Bit3:AL4,Bit4:DOFL,Bit5:-DOFL,Bit6:IOFL	R
0034	MAX	Max. hold Value, Display Range FFFFB1E1~0001869F (-19999~99999) high word	R
0035		Max. hold Value, Display Range FFFFB1E1~0001869F (-19999~99999) low word	R
0036	FUNC	Terminal function,Display Range 0000~0001(0~1)(0:OFF, 1:ON)(Bit0: MAX)	R