





**Data setting of switch output function**

086 2023 CH1 FLo → 086 2023 CH1 PrE  
 Press  $\odot$  or  $\ominus$  key to select flow rate unit. Press  $\odot$  key to set.

<Pressure/Flow switch output selection>

<Switch output OFF> <Window operation 1> <Window operation 2>  
 --- FLo → L-r- FLo → L-u- FLo

<Integrated pulse output 2> <Integrated output 1> <Hysteresis operation 2>  
 PLS FLo → S-r- FLo → L-c- FLo

<Switch output OFF> <Window operation 1> <Window operation 2>  
 --- PrE → L-r- PrE → L-u- PrE

Pressure switch Press  $\odot$  (determination) ON/OFF data setting

<Hysteresis operation 2> <Hysteresis operation 1>

**Switch action description**

Mode	LCD display	Action description
Window operation 1	-n-	Switch output ON within the specified range
Window operation 2	-u-	Switch output ON outside the specified range
Hysteresis operation 1	-o-	Set a hysteresis range, when it reaches the specified flow rate or more, the switch output is OFF.
Hysteresis operation 2	-o-	Set a hysteresis range, when it reaches the specified flow rate or more, the switch output is ON. <small>(Display shows 000 value and switch output)</small>
Integrated output 1	S-r	When reaches the specified flow rate or more, the switch output is ON.
Integrated output 2	S-L	When reaches the specified flow rate or more, the switch output is OFF.
Integrated pulse output	PLS	Set up an upper limit and trigger a pulse signal for 40ms when the count gets over it.
Switch output to OFF	---	Switch to OFF

Note: 1. When selecting pressure output, please refer to the table below.

Set pressure unit	bar	kPa	psi
Set pressure value	123	123	123
Corresponding pressure value	1.23	12.3	12.3

2. Integrated output the set value needs to be multiplied by 100 to get the actual setting value (Ex: set to 10, the actual setting value is 10\*100).

3. PLS set: 3000L=30L/Pulse, 4000L=40L/Pulse, 6000L=60L/Pulse, 8000L=80L/Pulse

**CH1 ON/OFF data setting**

<Upper limit data setting>  
 086 2023 5 i 3000  
 Press  $\odot$  once for lower limit setting. Press  $\odot$  once (determination)

086 2023 52 1000  
 Press  $\odot$  once (determination)

Value up Press  $\odot$  key once to increase by one figure and press it continuously to keep set figure increased.  
 Value down Press  $\ominus$  key once to decrease by one figure and press it continuously to keep set figure decreased.  
 Note: The switch mode is preset to the upper limit to start setting, after setting, press the  $\odot$  key to set the lower limit.

Select function output mode  
 <Select function output>  
 086 2023 on  
 Press  $\odot$  once (determination)  
 086 2023 on  
 <Being held down (CH1 output ON)> Press  $\odot$  once (determination)

Zero range setting  
 <0 setting>  
 086 2023 2Ero 40  
 Press  $\odot$  once Press  $\odot$  once  
 086 2023 2Ero 41  
 Press  $\odot$  once (determination)  
 Value up Press  $\odot$  key once to increase by one figure and press it continuously to keep set figure increased.  
 Value down Press  $\ominus$  key once to decrease by one figure and press it continuously to keep set figure decreased.  
 Note: The zero range setting is preset to 0, after setting, press the  $\odot$  key to set the zero range.

Setting of display speed  
 <Display speed selection>  
 086 2023 dS-P 250  
 Press  $\odot$  once (determination)  
 086 2023 dS-P 500  
 Press  $\odot$  once (determination)  
 086 2023 dS-P 1000  
 Press  $\odot$  once (determination)  
 250msec 500msec 1000msec

Setting of display color  
 <Color setting display>  
 086 2023 CLor  
 Press  $\odot$  or  $\ominus$  to select response time. Press  $\odot$  key to set. To instantaneous flow rate display

Red when ON Green when OFF Always RED Always Green  
 Red when OFF Green when ON Always RED Always Green  
 CLor r-on CLor G-off CLor r-Ed CLor G-En

CO2 discharge amount calculation setting  
 <CO2 discharge amount setting>  
 086 2023 Co2  
 Note1: Compressor's power input (kW). Note2: Compressor's discharge pressure input (bar). Note3: Compressor's flow rate input (L/min). Note4: CO2 conversion coefficient input (kg/CO2/kwh).

Power input 086 2023 Uwt 1000 (SET) Discharge pressure 086 2023 bAr 100 (SET)  
 Discharge flow rate 086 2023 L 1000 (SET) CO2 conversion 086 2023 Co2 1000 (SET)  
 Value up Press  $\odot$  key once to increase by one figure and press it continuously to keep set figure increased.  
 Value down Press  $\ominus$  key once to decrease by one figure and press it continuously to keep set figure decreased.

**Sleep mode setting**

<Sleep mode-ON> <Sleep mode-OFF>  
 086 2023 CLoS on 086 2023 CLoS off  
 Press  $\odot$  or  $\ominus$  to select sleep mode setting. Press  $\odot$  key to set sleep mode setting.  
 Note1: Press any key in power saving mode and the display resume lighting up.  
 Note2: The power saving mode will last for 1 minute each time.  
 Note3: The control functions remains intact in power saving mode.

Pressure / unit switch setting  
 <Unit: bar> <Unit: kPa> <Unit: psi>  
 086 2023 Un It PrE 086 2023 Un It PrE 124 2023 Un It PrE  
 Note: Initial setting unit: bar. Press  $\odot$  once (determination). To instantaneous flow rate display

Flow / unit switch setting  
 <Unit: L/min> <Unit: CFM>  
 086 2023 Un It FLo 086 71 086 71  
 Un It FLo Un It FLo Un It FLo  
 Note: Initial setting unit: L/min. Press  $\odot$  once (determination). To instantaneous flow rate display

Zero-point calibration for pressure  
 <calibration> <No calibration>  
 086 2023 Pr-E 5 086 2023 Pr-E 0  
 Press  $\odot$  once (determination). To instantaneous flow rate display

Flow Rate Display Fine-Tuning  
 <Before> <After>  
 086 2023 FLo 000 086 2023 FLo 200  
 Press  $\odot$  once (determination). To instantaneous flow rate display  
 Value up Press  $\odot$  key once to increase the flow rate by 0.01%. Continuous pressing results in a continuous increment of the flow rate in unit values.  
 Value down Press  $\ominus$  key once to decrease the flow rate by 0.01%. Continuous pressing results in a continuous decrement of the flow rate in unit values.  
 Note: Fine-tuning mode is preset to 0, with a configurable range of ±3%.

ModBus RTU setting  
 <RS 485 set>  
 086 2023 485 on 086 2023 485 off  
 Press  $\odot$  once (determination)

<Transmission Rate Configuration>  
 086 2023 rAt 96 086 2023 rAt 192 086 2023 rAt 384  
 Note: Transmission rate defaults to 9600.

<Station Address>  
 086 2023 Id 1 086 2023 Id 255  
 Press  $\odot$  once (determination). To instantaneous flow rate display

Note 1: RS-485 switch is default to open.  
 Note 2: Transmission rate defaults to 9600.  
 Note 3: Transmission format defaults to: n81.  
 Note 4: Station Address defaults to 1.

Note: This menu is available only for RS485 functionality as per the specification selection.

**Analog voltage switch setting**

<Analog voltage output 1-5V / 0-10V>  
 086 2023 Uout 1-5 086 2023 Uout 0-10  
 Press  $\odot$  once Press  $\odot$  once  
 Note1: Initial setting 0-10V.  
 Note2: No initial setting for current output.

Reset to the initial setting  
 <Reset is not executed> <Reset is executed>  
 086 2023 rEst off 086 2023 rEst on  
 Press  $\odot$  once Press  $\odot$  once  
 Press  $\odot$  or  $\ominus$  to reset. Press  $\odot$  to set. To instantaneous flow rate display

Mode number display  
 <Mode number>  
 086 2023 3000 A I P  
 Full scale flow rate <Working fluid> <Switch output>  
 A: Air N: NPN output P: PNP output

**ModBus RTU command description**

Address	Parameter	Unit	Description
0000	Operational status	0/1	0: Standby
0001	Compressor status	0/1	0: Compressor stop; 1: Compressor running
0002	Pressure	bar	Pressure sensor (main monitoring)
0003	Pressure	bar	Pressure sensor (alarm monitoring)
0004	Flow	L/min	Flow sensor (main monitoring)
0005	Flow	L/min	Flow sensor (alarm monitoring)
0006-0008	Integrated flow rate	00000-99999999	Counter: 00: 00000; 01: 00000; 02: 00000
0009	CO2	kg	CO2 conversion coefficient
000A	CO2	kg	CO2 conversion coefficient
000B	Integrated flow rate	00000-99999999	Counter: 00: 00000; 01: 00000; 02: 00000
000C	CO2	kg	CO2 conversion coefficient
000D	CO2	kg	CO2 conversion coefficient
000E	CO2	kg	CO2 conversion coefficient
000F	CO2	kg	CO2 conversion coefficient
0010	CH1 mode	0/1	0: Hysteresis; 1: Integrated
0011	CH1 upper limit	0/1	0: Hysteresis; 1: Integrated
0012	CH1 lower limit	0/1	0: Hysteresis; 1: Integrated
0013	CO2 set	kg	CO2 conversion coefficient
0014	CO2 set	kg	CO2 conversion coefficient
0015	CO2 set	kg	CO2 conversion coefficient
0016	CO2 set	kg	CO2 conversion coefficient
0017	CO2 set	kg	CO2 conversion coefficient
0018	CO2 set	kg	CO2 conversion coefficient
0019	CO2 set	kg	CO2 conversion coefficient
001A	CO2 set	kg	CO2 conversion coefficient
001B	CO2 set	kg	CO2 conversion coefficient
001C	CO2 set	kg	CO2 conversion coefficient
001D	CO2 set	kg	CO2 conversion coefficient
001E	CO2 set	kg	CO2 conversion coefficient
001F	CO2 set	kg	CO2 conversion coefficient
0020	CO2 set	kg	CO2 conversion coefficient
0021	CO2 set	kg	CO2 conversion coefficient
0022	CO2 set	kg	CO2 conversion coefficient
0023	CO2 set	kg	CO2 conversion coefficient
0024	CO2 set	kg	CO2 conversion coefficient
0025	CO2 set	kg	CO2 conversion coefficient
0026	CO2 set	kg	CO2 conversion coefficient
0027	CO2 set	kg	CO2 conversion coefficient
0028	CO2 set	kg	CO2 conversion coefficient
0029	CO2 set	kg	CO2 conversion coefficient
002A	CO2 set	kg	CO2 conversion coefficient
002B	CO2 set	kg	CO2 conversion coefficient
002C	CO2 set	kg	CO2 conversion coefficient
002D	CO2 set	kg	CO2 conversion coefficient
002E	CO2 set	kg	CO2 conversion coefficient
002F	CO2 set	kg	CO2 conversion coefficient

**Function code**

R/W	Description
03	Read flow meter parameters
06	Write flow meter parameters

**Error code**

code	Description
03	The data content is wrong or out of range