

B - 579 IDEC IZUMI CORPORATION

Operating Instructions

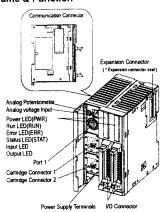
www.idee.com

MICRO Smar This sheet provides brief operating instructions of the

MicroSmart programmable controller. For details, see the MicroSmart User's Manual

FC4A-D20K3, FC4A-D20S3, FC4A-D20RK1, FC4A-D20RS1, FC4A-D40K3, FC4A-D40S3

Name & Function



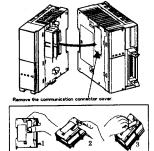
Assembling

[I/O Modules]

Remove the expansion connector seal (*) from the CPU module. With the expansion connectors aligned correctly, press the CPU module and I/O module together, and push in the unlatch button to attach the modules together firmly.

[Communication Modules]

Remove the communication connector cover from the CPU module. With the communication connectors aligned correctly, press the CPU module and communication module together, and push in the unlatch button to attach the modules together firmly.



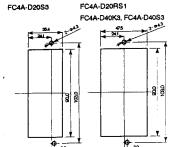
Mounting Modules



[Direct Mounting]

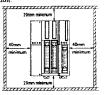
Use M4 mounting screws (6 mm or 8 mm long) FC4A-D20K3

FC4A-D20RK1

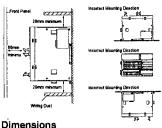


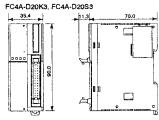
Installation in Control Panel & FC4A-D20RK1 **Mounting Direction**

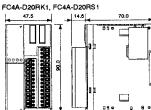
When installing the MicroSmart in a control panel, take the convenience of operation and maintenance. and resistance against environments into consideration

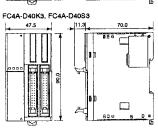


Correct Mounting Direction







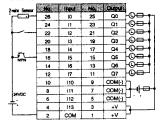


8.5 mm when the clamp is pulled out.

Dimensions in mm.

I/O Wiring





FC4A-D20S3

2-wire Sensor	190	trout	No.	Culput	
	26	10	25	QO	© □ †
	24	- 11	23	Q1	 □
	22	12	21	Q2	© □
	20	13	19	Q3	1 00
1 . !	18	14	17	Q4	10 0
L-PNP	16	15	15	Q5	(O O
	14	16	13	Q6	H© D
	12	17	11	Q7	(O C)
1	10	H10	9	COM(+)	h.l
24VDC	8	111	7	COM(+)	
	6	112	5	COM(+)	Ρ 'Ι
T·	4	113	3	-٧	1
	2	COM	1	٠٧	۲

	Left side	(TB1)	Right side	e (TB2)	
2-wire Sensor	No.	input	No.	Output	_
<u></u>	- 1	10	1	Q0	-O
	2	[1	2	Q1	-O
-	- 3	12	3	COM(·)	
1	4	13	4	+V	
İ	5	14	5	NC	
NPN -	- 6	15	6	Q2	© □
1	7	16	7	0.3	<u> -</u>
	8	17	8	Q4	
	9	110	9	COM1	<u> </u>
	10	(11	10 .	NC	'
24VDC	11	112	11	Q5	10 = 1
Ŧ.	12	113	12	Q6	⊕ —
	13	COM	13	COM2	
	-		14	NC	
			15	Q7	-O=
			16	сомз	J

FC4A-D20RS1

	Left side	(TB1)	F	Right side	e (TB2)	
2-wire Sensor	No.	Input	B	No.	Cutput	
	1	10		1	QO	(C)
	2	11		2	Q1	HOTH
<u> </u>	3	12		3	COM(+)	
1	4	13	Ĺ	4	٠٧	
1_	5	14	- [5	NC	
PNP	6	15	- 1	6	Q2	\© □ 1 1
i	7	16		7	Q3	\ <u>O</u>
İ	8	17		8	Q4	(O=-)
	9	110		9	COM1	
24VDC	10	itt		10	NC	
	11	112	- [11	Q5	O = 1
Τ.	12	113		12	Q6	
	13	COM	ĺ	13	COM2	
				14	NC	
			[15	Q7	O
			- [16	COM3	<u> </u>

FC4A-D40K3

	Left side	(CN1)			
-wire Sensor	No.	Imput	No	Culput	
	26	10	25	Q0_	PP →
	24	11	23	Q1	10 0
	22	12	21	Q2	(D D
	20	13	19	Q3	}© □
1 .	18	14	17	Q4	H© □
NPN	16	15	15	Q5	© □
1	14	16	13	Q6	
1	12	17	11	Q7	}© =
	10	110	9	COM(-)	h.I
24VDC	8	111	7	COM(-)	┝╼╀
24000	- 6	112	5	COM(-)	ΗΙ
₸,	4	113	3	٠V	h
	2	сом	1	+V	۲

Right side (CN2)

2-wire Servoor	Na.	Input	No.	Chipu	
	26	114	25	Q10	© □ ↑
İ	24	115	23	Q11	(O D
	22	116	21	Q12_	(C)
1	20	117	19	Q13	-© -
	18	120	17	Q14	₩ I
NPN	16	121	15	Q15	O □
	14	122	13	Q16	O □ -
	12	123	11	Q17	PO O U
	10	124	9	COM(-)	h. I
24VDC	8	125	7	COM(-)	┝═┪
2.00	6	126	5	COM(-)	Ρ' Ι
Τ,	4	127	3	+V	<u> </u>
L	2	COM	1	+V	۲

FC4A-D40S3

	Left side	(CN1)			
2-wire Sensor	No.	Input	No.	CHAPLE	i
	26	10	25	Q0	© ⊏
	24	lt.	23	Q1	-CH-
—	22	12	21	02	⊕
1	20	13	19	Q3	-© =
1 .	18	14	17	Q4	₩ □
PNP	16	15	15	Q5	-©
''''	14	16	13	Q6	© =
	12	17	11	Q7	POP-
	10	110	9	COM(+)	h.
24VDC	8	111	7	COM(+)	
	6	112	5	COM(+)	۲۰۰۱
T.	4	113	3	-V	<u> </u>
L	2	COM	1	-V	Н

	Right sid	te (CN2)			
wire Sensor	No.	input	No.	Output	_
	26	114	25	Q10	-© ≔ -
	24	115	23	Q11	<u>-©⇔</u>
	22	116	21	Q12	 O=
	20	117	19	Q13	- -
. [18	120	17	Q14	J© □
PNP	16	121	15	Q15	<u>-⊕</u>
	14	122	13	Q16	10€
	12	123	11	Q17	 ()
24VDC	10	124	9	COM(+)	h.
	8	125	7	COM(+)	
	6	126	5	COM(+)	μ.
r.	4	127	3	-v	h
	2	COM	1	-V	H

The following symbols represent a fuse and a load.



Applicable Ferrule Dimensions (mm)

To crimp the ferrules shown below, use a special erimping tool (CRIMPFOX ZA-3).



Recommended Screwdriver

When wiring the Phoenix Contact terminal block, use the recommended screwdriver.

(Phoenix Contact Type No.: SZS 0.6×3.5: SZS 0.4×2.5)

Safety Precautions

Special expertise is required to use the MicroSmart.

- Read this instruction sheet and the user's manual to make sure of correct operation before starting installation, wiring, operation, maintenance, and inspection of the MicroSmart.
- Keep this instruction sheet at the end user
- · All MicroSmart modules are manufactured under IDEC's rigorous quality control system, but users must add a backup or failsafe provision to the control system using the MicroSmart in applications where heavy damage or personal injury may be caused in case the MicroSmart should fail.
- · Install the MicroSmart according to instructions described in this instruction sheet and the user's manual. Improper installation will result in falling failure, or malfunction of the MicroSmart.
- Make sure that the operating conditions are as described in the user's manual. If you are uncertain about the specifications, contact IDEC in advance.
- · In this instruction sheet, safety precautions are categorized in order of importance to Warning and

Warning

(Warning notices are used to emphasize that improper operation may cause severe personal injury or death.)

• Turn off the power to the MicroSmart before

- starting installation, removal, wiring, maintenance, and inspection on the MicroSmart. Failure to turn power off may cause electrical shocks or fire hazard.
- · Emergency stop and interlocking circuits must be configured outside the MicroSmart. If such a circuit is configured inside the MicroSmart, failure of the MicroSmart may cause disorder of the control system, damage, or accidents.
- This equipment is suitable for use in Class I, Division 2, Groups A, B, C, D or non-hazardous ocations only.
- · Warning · Explosion Hazard · Substitution of components may impair suitability for Class I. Division 2.
- · Warning · Explosion Hazard · Do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous.

↑ Caution

(Caution notices are used where inattention might cause personal injury or damage to equipment.)

- The MicroSmart is designed for installation in equipment. Do not install the MicroSmart outside
- · Install the MicroSmart in environments described in the user's manual. If the MicroSmart is used in places where the MicroSmart is subjected to highhigh-humidity, temperature, corrosive gases, excessive vibrations, and excessive shocks, then electrical shocks, fire hazard, or malfunction will result.
- The environment for using the MicroSmart is "Pollution degree 2."
- Prevent metal fragments and pieces of wire from dropping inside the MicroSmart housing. Ingress of such fragments and chips may cause fire hazard, damage, or malfunction.
- using, or mainteness.

 Use wires of a proper size to meet voltage and current requirements. Tighten terminal screws to a proper tightening torque of 0.5 N-m (power supply terminals) or 0.22 to 0.25 N-m.(I/O terminals)
- Use an IEC60127-approved fuse on the power line and output circuit to meet voltage and current requirements
- (Recommended fuse: Littelfuse 5x20mm slow-blow type 218000 series/Type T) This is required when exporting equipment containing MicroSmart to Europe.
- · Use an EU-approved circuit breaker. This is required when exporting equipment containing
- MicroSmart to Europe.

 If relays or transistors in the MicroSmart output modules should fail, outputs may remain on or off. For output signals which may cause heavy accidents, provide a monitor circuit outside of the MicroSmart.
- Use the sensor power supply only for supplying power to sensors connected to the MicroSmart.
- not disassemble, repair, or modify the MicroSmart modules