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Operating Instructions www.idec.com

MICROSmart

This sheet provides brief operating instructions of the MicroSmart I/O modules. For details, see the MicroSmart User's Manual.

FC4A-N16B3, FC4A-N32B3, FC4A-T16K3
FC4A-T16S3, FC4A-T32K3, FC4A-T32S3
FC4A-M24BR2, FC4A-L03A1, FC4A-L03AP1
FC4A-J2A1, FC4A-K1A1

● Wiring Example

Use an IEC 60127-approved fuse on the output circuit to meet voltage and current requirements. For details of output module specifications, see the MicroSmart User's Manual.

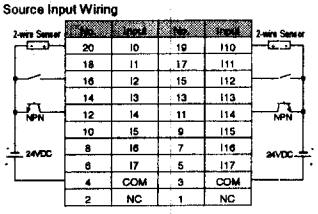
The following symbols represent a fuse and a load.

Fuse Load

Terminal numbers are indicated on the module.

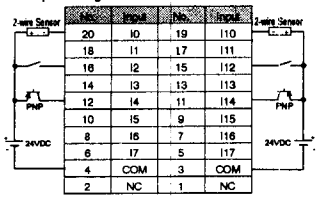
FC4A-N16B3

Source Input Wiring



No.	Input	No.	Input
20	I0	19	I10
18	I1	17	I11
16	I2	15	I12
14	I3	13	I13
12	I4	11	I14
10	I5	9	I15
8	I6	7	I16
6	I7	5	I17
4	COM	3	COM
2	NC	1	NC

Sink Input Wiring

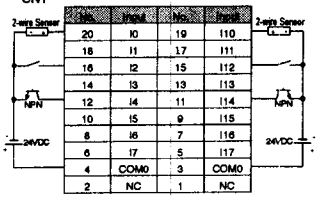


No.	Input	No.	Input
20	I0	19	I10
18	I1	17	I11
16	I2	15	I12
14	I3	13	I13
12	I4	11	I14
10	I5	9	I15
8	I6	7	I16
6	I7	5	I17
4	COM	3	COM
2	NC	1	NC

FC4A-N32B3

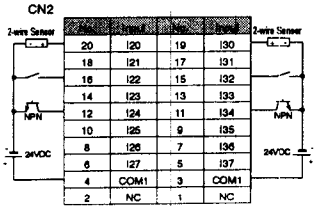
Source Input Wiring

CN1



No.	Input	No.	Input
20	I0	19	I10
18	I1	17	I11
16	I2	15	I12
14	I3	13	I13
12	I4	11	I14
10	I5	9	I15
8	I6	7	I16
6	I7	5	I17
4	COM0	3	COM0
2	NC	1	NC

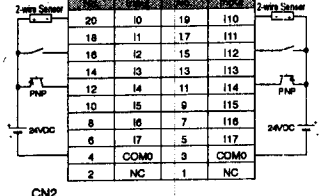
CN2



No.	Input	No.	Input
20	I20	19	I30
18	I21	17	I31
16	I22	15	I32
14	I23	13	I33
12	I24	11	I34
10	I25	9	I35
8	I26	7	I36
6	I27	5	I37
4	COM1	3	COM1
2	NC	1	NC

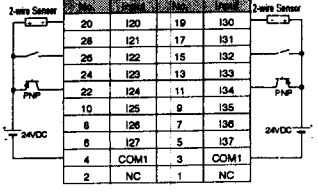
Sink Input Wiring

CN1



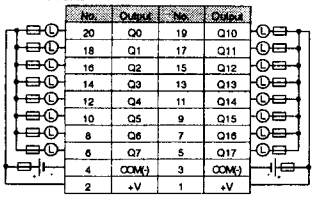
No.	Input	No.	Input
20	I0	19	I10
18	I1	17	I11
16	I2	15	I12
14	I3	13	I13
12	I4	11	I14
10	I5	9	I15
8	I6	7	I16
6	I7	5	I17
4	COM0	3	COM0
2	NC	1	NC

CN2



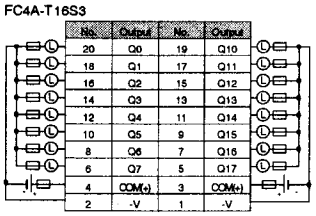
No.	Input	No.	Input
20	I20	19	I30
18	I21	17	I31
16	I22	15	I32
14	I23	13	I33
12	I24	11	I34
10	I25	9	I35
8	I26	7	I36
6	I27	5	I37
4	COM1	3	COM1
2	NC	1	NC

FC4A-T16K3



No.	Output	No.	Output
20	Q0	19	Q10
18	Q1	17	Q11
16	Q2	15	Q12
14	Q3	13	Q13
12	Q4	11	Q14
10	Q5	9	Q15
8	Q6	7	Q16
6	Q7	5	Q17
4	COM(+)	3	COM(-)
2	+V	1	+V

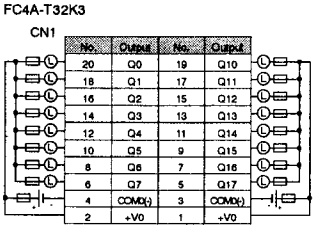
FC4A-T16S3



No.	Output	No.	Output
20	Q0	19	Q10
18	Q1	17	Q11
16	Q2	15	Q12
14	Q3	13	Q13
12	Q4	11	Q14
10	Q5	9	Q15
8	Q6	7	Q16
6	Q7	5	Q17
4	COM(+)	3	COM(+)
2	-V	1	-V

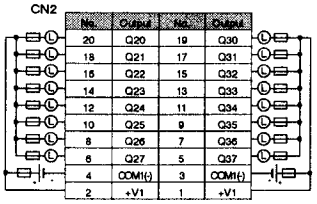
FC4A-T32K3

CN1



No.	Output	No.	Output
20	Q0	19	Q10
18	Q1	17	Q11
16	Q2	15	Q12
14	Q3	13	Q13
12	Q4	11	Q14
10	Q5	9	Q15
8	Q6	7	Q16
6	Q7	5	Q17
4	COM0(+)	3	COM0(-)
2	+V0	1	+V0

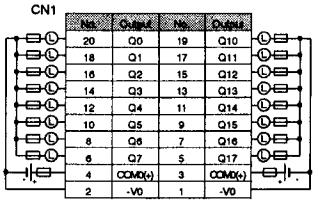
CN2



No.	Output	No.	Output
20	Q20	19	Q30
18	Q21	17	Q31
16	Q22	15	Q32
14	Q23	13	Q33
12	Q24	11	Q34
10	Q25	9	Q35
8	Q26	7	Q36
6	Q27	5	Q37
4	COM1(+)	3	COM1(-)
2	+V1	1	+V1

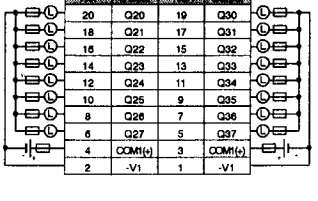
FC4A-T32S3

CN1



No.	Output	No.	Output
20	Q0	19	Q10
18	Q1	17	Q11
16	Q2	15	Q12
14	Q3	13	Q13
12	Q4	11	Q14
10	Q5	9	Q15
8	Q6	7	Q16
6	Q7	5	Q17
4	COM0(+)	3	COM0(+)
2	-V0	1	-V0

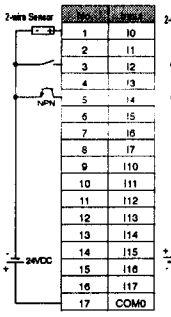
CN2



No.	Output	No.	Output
20	Q20	19	Q30
18	Q21	17	Q31
16	Q22	15	Q32
14	Q23	13	Q33
12	Q24	11	Q34
10	Q25	9	Q35
8	Q26	7	Q36
6	Q27	5	Q37
4	COM1(+)	3	COM1(+)
2	-V1	1	-V1

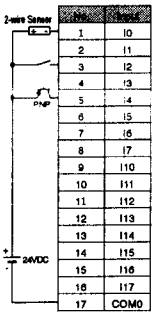
FC4A-M24BR2

Source Input Wiring



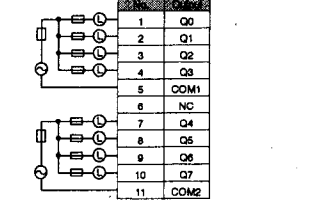
No.	Input
1	I0
2	I1
3	I2
4	I3
5	I4
6	I5
7	I6
8	I7
9	I10
10	I11
11	I12
12	I13
13	I14
14	I15
15	I16
16	I17
17	COM0

Sink Input Wiring



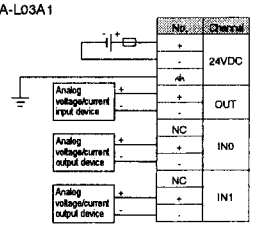
No.	Input
1	I0
2	I1
3	I2
4	I3
5	I4
6	I5
7	I6
8	I7
9	I10
10	I11
11	I12
12	I13
13	I14
14	I15
15	I16
16	I17
17	COM0

Relay Output Wiring



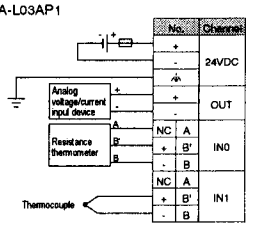
No.	Output
1	Q0
2	Q1
3	Q2
4	Q3
5	COM1
6	NC
7	Q4
8	Q5
9	Q6
10	Q7
11	COM2

FC4A-L03A1



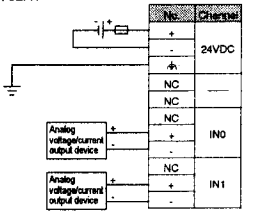
No.	Channel
+	24VDC
-	
+	OUT
-	
NC	
+	IN0
-	
NC	
+	IN1
-	

FC4A-L03AP1



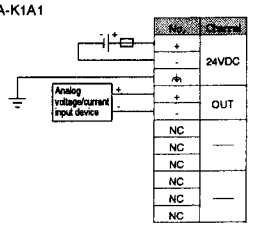
No.	Channel
+	24VDC
-	
+	OUT
-	
NC A	
+ B'	IN0
- B	
NC A	
+ B'	IN1
- B	

FC4A-J2A1



No.	Channel
+	24VDC
-	
NC	
NC	
NC	
+	IN0
-	
NC	
+	IN1
-	

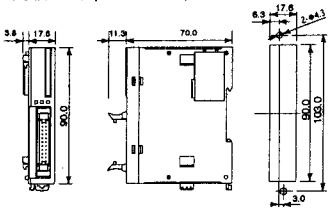
FC4A-K1A1



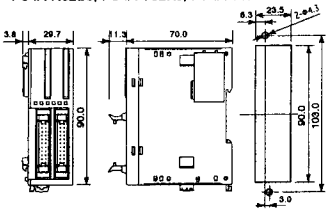
No.	Channel
+	24VDC
-	
+	OUT
-	
NC	
NC	
NC	
NC	
NC	
NC	

● Dimensions

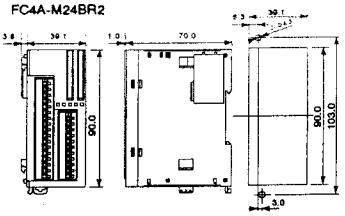
FC4A-N16B3, FC4A-T16K3, FC4A-T16S3



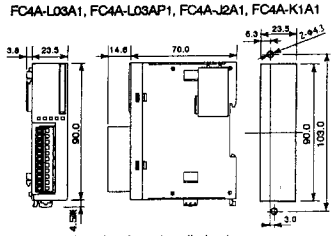
FC4A-N32B3, FC4A-T32K3, FC4A-T32S3



FC4A-M24BR2



FC4A-L03A1, FC4A-L03AP1, FC4A-J2A1, FC4A-K1A1



* 8.5 mm when the clamp is pulled out.

Dimensions in mm.

● Applicable Ferrule Dimensions (mm)

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

For 1-cable connection **For 2-cable connection**

(AI 0.5-8 WH) (AI-TWIN 2×0.5-8 WH)

( ) indicates the Type No. of Phoenix Contact.

● Recommended Screwdriver

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

(Phoenix Contact Type No.: 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 Caution:

⚠ 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 locations 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 equipment.
- Install the MicroSmart in environments described in the user's manual. If the MicroSmart is used in places where the MicroSmart is subjected to high-temperature, high-humidity, condensation, 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." The pollution degree refers to a degree of pollution in the micro-environment which determines the effect of pollution on the insulation. Pollution degree 2 defines "Only non-conductive pollution occurs except that occasionally a temporary conductivity caused by condensation is to be expected." Do not use the MicroSmart in environments inferior to the state specified in IEC60664-1.
- 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.
- Use wires of a proper size to meet voltage and current requirements. Tighten terminal screws to a proper tightening torque of 0.22 to 0.25N·m.
- 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.
- Do not disassemble, repair, or modify the MicroSmart modules.