CHELIC



FC-D / FC-R 系列

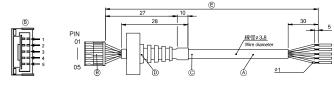
數位式流量傳感器(熱質式) 分離型 / 調速型 操作說明書

FC-D / FC-R Series - Flow Meter User Manual



● FC-D / FC-R 系列 - 電線端子

FC-D / FC-R Series-Wire connecto



_					
PIN	線色 Wing color	内容 Content	編號 No.	内容 Content	
01		電源+(24V) Power+(24V)	A	電線:內(AWG26/5條),外皮:白色 Wire:Inside(AWG26/5 Ine),Skin:White	
02	白 WHITE	CH1 (開願輸出1 : max:50mA) CH1 (Switch output 1 : max:50mA)	B	5PIN接頭 5PIN Connector	
03		CH2 (開闢輸出2 : max:50mA) CH2 (Switch output 2 : max:50mA)	©	熟縮套管(黑) Heat shrink tubing (black)	
04	橘 ORANGE	電壓輸出: 0.5-4.5V 負荷阻抗50kQ以上 Analog output: 0.5-4.5V Load impedance 50kQ above	0	FC-D / FC-R 系列 電子接頭防折套 FC-D / FC-R series connector anti-folding sleeve	
05		電源一(GND) Power-(GND)	(E)	線長:L=1000mm±50 或 L=3000mm±50(依據料號選定) Wire lenth:L=1000mm±50 or L=3000mm±50 (Depand on parts number)	

使用安全事項與警告

使用安全警告與注意事項分為三種「危險」、「警告」、「注意」。

危險:表示如果進行錯誤操作,有可能導致死亡或重傷的危險內容,

並且危險發生時的緊急性(緊急程度)高的情況。 警告:表示如果進行錯誤操作,有可能導致死亡或重傷的危險內容。 注意:表示如果進行錯誤操作,有可能導致死亡或重傷的危險內容。

容

關於使用流體

危險 ・請勿用於易燃性流體・

注意

使用不受温度、販力影響的品質流量測定本產品的流量。單位為 にロコンス 一段、 企 JJ を 香り 正 具 流 薫 測 足 不 産 品 り 流 重 。 単 征 為 Lmin 。 該 單 位 為 將 品 質 流 量 換 算 為 在 20C 1 氣 壓 (101kPa) 的 體積 流 量 時 的 標 記 單 位 。

- 警告 ・不能作為商用儀録使用
- 不適用於計量法,因此請不要用於商業交易。請作為工業用威測器 使用。
- 除適用流體之外的流體由於不能保證其續度,因此請不要使用
- 金屬網)用於調整配管中的流量,並不是用於除去異物的篩檢程式
- ,因此讚務必設置節檢程式。 · 威測器的一次端使用關時,請使用禁油規格的關。否則,可能因潤 滑油、油等飛騰造成感測器失靈或破損。
- 使用碳酸氣等液化氣體時,請務必氣化後使用。因為液化的氣體進
- 入本產品可能導致產品故障

關於佈線

危險

- 電源電壓及輸出請使用規格電壓
- 施加規格電壓以上的電壓可能引起失靈、感測器破損及觸電或火災 此外,請不要使用超過輸出額定的負荷。因為可能導致威測器破損
- 或火災

- · 佈線時請確認電線的顏色。錯誤佈線可能引起感測器損壞、故障或
- 失靈,因此請參照使用說明書確認回路的顏色後再進行佈線
- 請確認配線的絕緣。
- 請不要與其他回路接觸、接地或端子問絕緣不良。可能造成感測器流入過電流導致感測器損壞。
- 本産品使用的電源請使用與交流電源組織的額定內 DC 穩定電源。 沒有經緣的雷源可能導致觸雷事故。
- 及污品或的電源与時經過額定電源,或導致本產品損壞,或導致本產 品精度下降。
- 連接連接器後請務必安裝連接器防護罩
- 。 直接電流的引出部位及連接器部不要形成壓力。 請停止控制裝置、機械裝置後,在切斷電源的狀態下進行佈線。如 果使裝置過快運行有時裝置會進行異常動作,這樣非常危險。請先 使控制裝置、機械裝置保持停止狀態進行通電試驗,並進行問閱資 料設定。操作前、操作中請將人體、工具、裝置所帶的靜電充分放 電後進行操作。活動部請使用類似機器人用線材的具有耐屈曲性能 的線材進行連接佈線。
- 請不要超過電源電壓範圍使用。如果施加超過使用範圍的電壓或交 流雷酒,則可能導致本產品破裂或(蜂鸮
- · 本產品及佈線設置時請遠離強電線等噪音源。電源線產生的浪湧請

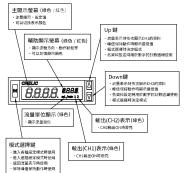
- 另行採取措施。有時顯示或輸出會有變動
- 为门外似间形。 Pinek/13kmin 自身变物 負荷請不要短路。 因為可能等較本產品檢製或燒毀。 金屬主體 (不銹鋼主體、鋁主體)型用電源請使用與交流—次端完 全絕緣的 DC 穩定電源,F.G. 連接電源側的+側或-側的某—側後 使用。為防止威測器的絕緣損壞,金屬主體型的內部電源回路和金
- 屬主體之間連接有變阻器 (限制電壓約 40V)。金屬主體型的內部電源回路和金屬主體之間不要實施耐電壓試驗和絕緣電阻試驗。需要 實施這些試驗時請將佈線拆下後實施。電源和金屬主體之間的過大 雷位差會講報內部零元件。此外,金屬主體型的本產品設置、連接 、配線後,裝置、機架的電焊或短路事故的焊接電流或焊接時過渡 性高電壓、浪湧電壓等會導致與連接上述元件間的回路、接地線或
- 流體回路產生電壓洩露,最後使電線或元件損壞。請在全部拆去主 加國四四屆王華經及語,成反使總數以行前內容。可在主即於公主 機或電鐵下戶,避接後其何實與等操作。 除溫度特性外,輸出精度氫會受到因插電而本身發熱的影響。使用 時請等待待機時間(趙電 5 分鐘後)。
- 本產品在通電後由於自身診斷需要耗時約四秒鐘,這段時間內流量 檢出開關不動作。通電後約四秒鐘請設置為無視訊號的控制回路、

注意

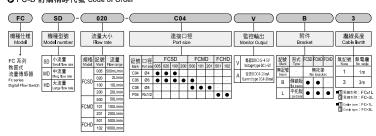
- 上心 動作過程中如果發生異常,請立即切斷電源,停止使用本產品,並 與銷售店聯繫。
- 本產品的流量請保持在額定流量量程內

- · 本產品請在使用壓力範围內使用。 · 變更輸出的設定值時,控制系裝置可能會自動動作,因此請停止裝置運行後再變更輸出設定值。
- 請一年至少定期檢查一次本產品,確認本產品正常動作。
- 高・丁二ン (大田) (本語 大田) (
- 將粘有稀薄中性洗滌劑的毛巾等摶乾後擦拭外殼
- "我们可得吗?" · 前注電腦線型配線電阻產生的逆向電源。與発量成測器相同的電源 上連接合流量成測器的其他元件時,為確認控制態的輸入裝置作動 ,如果使開關輸出線和電源線一極短路或者切斷電源線一側,可能 會在流量威測器的問閱輸出回路上產生逆向電流,造成流量威測器

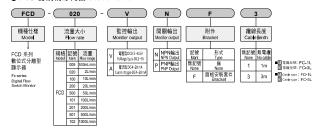
① 螢幕顯示、操作按鍵和功能



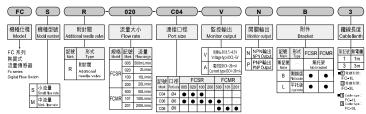
▶ FC-D 訂購稱呼代號 Code of Order



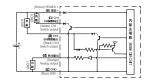
▶ FCD 訂購稱呼代號 Code of Order



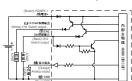
● FC-R 訂購稱呼代號 Code of Order



▶ FC-D / FC-R 系列 - NPN 型輸出電路 FC-D / FC-R Series - NPN Output



● FC-D / FC-R 系列 - PNP 型輸出電路 FC-D / FC-R Series - PNP Output



■操作模式 / —般模式

累計流量顯示



▼ M 按一次



▼M 按壓一次

同到即時流量顯示書面

注1: 外部信號累計流量計數譯零,請參照 "自動參考功能"。 注2: 當電源切斷之後,緊計流量數值將譯零,顯示畫面將繼續保持為累計流量顯示畫面

■峰值保持功能



峰值顯示畫面 ▼ 按壓一次 ↓ ▲ 按壓一次 (高峰值顯) 48 / -43,5

▼ 按壓一次

— 峰值重設功能完成,□到即時流量顯示患面

鎖鍵功能



455 unt :電源切断再復歸之後,鎖鍵或解鎖功能都會保持。 當額鍵功能殷動之後,所有的接键動作將不會有動作反應,除了解鎖功能 當額鍵功能殷動之後,所有的接键動作將不會有動作反應,除了解鎖功能

■標準設定模式





▼ M 按壓─次

按原一次 (確認) 0000 883 → ▲ 至0點校正設定畫面

▼ M 按座一次

:顕示速度設定> <u>250</u> d-5P 按原二次(確認) → ▲ → 至頁面顯示速度設定畫面 **▼ M** 按壓一次

按壓一次 (確認)

<顯示顏色設定> r ron ^{Eler} → ▲ → 至顯示顏色設定畫面 **▼ M** 按壓一次

oFF rest → 🛦 → 至還原原廠設定畫面 **▼ M** 按壓一次

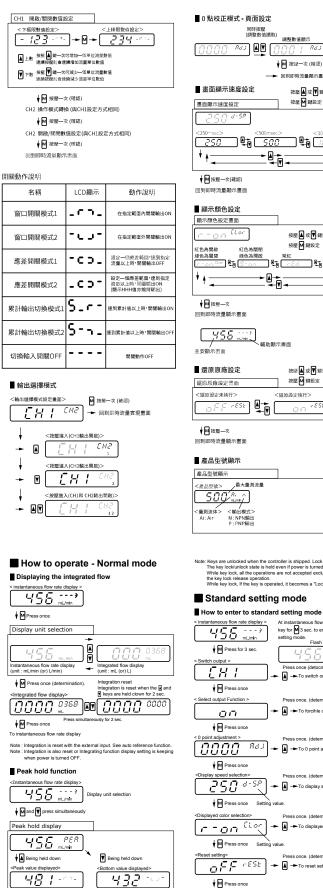
500 A. **▼** M 按壓一導

(遺原原廠設定)

■ 設定輸出切換開閱數值功能



▼ M 按壓一次 (確認)



peak hold function. To instantaneous flow rate display

[EH]

***** •

455 ····

458

Press M key to set.

6-7- 4-7-5-3

M Press once (determi

* A

Key lock function

≒55 --->

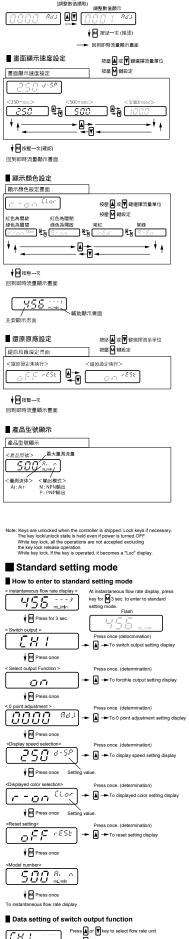
▼ ▲ ▼ and **M** press simultan

▼ ▲ ▼ and M press simultaneon

Loc

· Key unlock





Warning / Caution to secure safety Safety caution are ranked by the safety ca **WARNING>**, **CAUTION>**

DANGER: When a dangerous situation may occur, or when there is high urgency to a warning leading to fatal or serious injuries, if handing is mistaken.

WARNING: When a dangerous situation may occur if handing is mistaken, leading to fatal or serious injuries.

CAUTION: When a dangerous situation may occur if handing is mistaken, leading to minor injuries or physical damages.

Flow unit

DANGER
 Do not use this product with flammable fluids.

CAUTION• This product's flow rate is measured at a mass flow unaffected by temperature or pressure. The unit is (min, but this is the display when the mass flow is converted to volumetric flow at 20°C 1 barometric pressure (101 kP).

- WARNING

 This product cannot be used as a business meter.
 This product does not conform to measurement laws, and cannot be used for commercial purposes. Use this sensor for factory applications.
- Do not use fluids other than the applicable fluid because accuracy cannot be guaranteed.
- Compressed air from the compressor contains drainage (water, oxidized oil, foreign substances, etc.), so install a filter, air dryer, and oil mist filter (microalescer) on the primary side (upstream) of the sensor. The sensor's meshing rectifies flow in the pipe. It does not filter out foreign substances, so provide a filter pipe.
- When using a valve on the primary side of this product, use only an oil-prohibited specification valve. This sensor could malfunction or fail if exposed to splattering grease, oil, etc. Also, there is a risk of abrasion dust entering the sensor depending on the valve. Install a filter to prevent the dust from entering the sensor.
- Vaporize liquidified gas before use. Entry of liquidified gas into this product will result in damage.

Wiring

DANUSE
WE power voltage and output within the specified voltage.
If voltage exceeding the specified voltage is applied, the sensor could malfunction or be damaged, or electrical shock or fire could occur. Do not use aload exceeding the output rating, Failure to observe this could result in damage to the output or fire.

- WARNING

 Check wire colors when wiring. Incorrect wiring connections could result in sensor damage, problems, and malfunctions.

 Check wiring insulation.

 Check that wires do not contact other circuits and that there are no ground faults or insulation faults across terminals. An over current could flow in and damage the sensor.

 Use a DC Stabilized power supply, within the specified rating, insulated from the AC power supply, call the insulated the power supply could result in electrical shock. If power is not stabilized, the peak value could be exceeded. This could damage the product or impair accuracy.

 Attach a connector cover after connecting connectors.

 Check that stress is not directly applied to cable leadout or connector sections.

 Stop the control device and machine devices, and turn the power
- connector sections.

 Stop the control device and machine devices, and turn the power off before wiring. Starting operation suddenly could result in unpredictable operation and hazards. Conduct an energized test with control devices and machine devices stopped, and set target switch devices stopped, and set target switch data. Discharge electrostatic accumulated in personnel or material, such as robot wire material, for moveble sections.

 Do not use this product at levels exceeding the power voltage range. If voltage exceeding this range is applied or if AC power is applied, the controller could rupture or burn.

 Separate this product and its wiring as far away as possible from sources of noise such as high-voltage lines. Provide separate measures for surge applied to the power cable. The display or output could fluctuate.

Count UP Press key once to increase by one figure and press it continuously to keep set figure increa

Press once. (determination)

Press once. (determination)

CH2 ON/OFF data setting (Set same as CH1)

Press once. (determination)

Switch action description

CH2 operation mode change (Set same as CH1) I

Count down Press W key once to decrease by one figure and press it continuously to keep sel figure decreased.

CH1 ON/OFF data setting

• Do not short-circuit the load. This product could rupture or burnary content either the plus or minus side of the power supply, to the Good or created body octories the side of the power supply, in the Good or created body interest the side of the power supply in the Good or created body interest power separated from the AC primary side. A variator (limit voltage 40 V) is connected between the metal body internal power circuit and metal body to prevent dielectric breakdown of the sensor. Do not conduct a withstand voltage test or insulation resistance test between the internal power circuit and metal body. Disconnect wiring if this testing is required. An excessive potential difference between power and metal body the metal body, bectract welding of the device or frome, or stord circuit accidents, etc., could cause welding current, excessive high voltage caused by welding, or surge voltage, etc., to run through wiring or ground line connected between such devices, damaging lines or devices. Conduct work such as electric welding after removing this product and F.C connection of the wiring.

WARNING

• Analog output accuracy is also affected by self generation of heat cause by energizing in addition to temperature characteristics. Provide enough stand-by time (Sminutes and over after energizing) before staring operation.

• This product does not use speed control for four seconds are power is turned on to complete self-diagnostics. Provide a control circuit and program that ignore signals for four seconds after power is turned on.

- power is turned on.

 CAUTION

 If a problem occurs during operation, immediately turn power off, stop use, and contact your dealer.

 Keep this product's flow within the rated flow range.

 Use this product within the working pressure range.

 Use this product within the working pressure range.

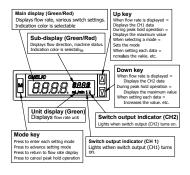
 Use this product within the working pressure range.

 Regularly inspect the product at least once a year or more, and confirm that it is operating correctly.

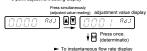
 Do not disassemble or modify this product. Doing so could result in faults.

 This cases in made of resin. Do not use solvent, alcholo or any other or the product of the product product of the product product of the product of the product product of the product product of the product product of the product produc

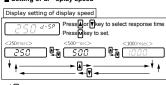
① Names and Functions of Each Parts







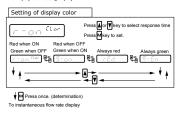
Setting of di splay speed



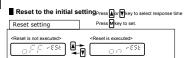
Press once. (determination)

Setting of display color









Press once. (determination) taneous flow rate display

