CHELIC

操作說明書 / OPERATION

真空電控比例閥 E/P REGULAR

系列 名稱 MODEL NAME

CVAR.series

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這裡所述的注意事項,目的是為了安全並正確地使用本產品,也是為了預防對您及其 他人可能造成的危害和損害。為了明確指示危害和損害的大小以及緊迫程度,以下事 項分為「**注意**」、「警告」和「**危險**」三個級別。因為不論那個級別都是與安全有關 的重要內容,因此還必須遵守 ISO 4414、JIS B 88370 以及其他安全法規。

■ 表示的說明

標示	表示意義
全 警告	表示錯誤操作時可能導致人員死亡或者負重傷
注意	表示錯誤操作時可能導致人身傷害和財物損失

警告 警告

① 本電控比例閥是否適用,應由氣壓系統設計者或者規格測定人員判斷。 本產品是否適用於客戶系統,應該由氣壓系統設計者或者規格測定人員根據需要進行分 析及測試後決定。該系統性能及其安全性方面由系統適合性判定者負責。希望日常關注 最新的產品目錄和資料探討所有相關的事項,並充分考慮機器發生故障的可能性,以建 構理想的系統。

② 本產品應由具有充分專業知識和經驗的人操作。 錯誤操作壓縮空氣是非常危險的,因此安裝、操作以及保養採用了空壓機器的機械、裝

置應由具有充分專業知識和經驗的人員進行。

③ 在確認安全之前,絕對不能進行裝置的操作及拆卸。

- A. 實施機械、裝置的檢查及整備之前,務必確認已經採去被驅動物體下落防止措施和 失控防止措施等。 B. 在拆卸裝置時,首先應當確認是否採取上述安全措施,並切斷電源等,在確保系統
- 安全的 同時,參照和理解所使用機器的產品個別注意事項之後進行操作。 C. 應確保能夠應付重新啟動機械和裝置時可能發生的各種意外動作或失誤動作。另外
- ,應定期檢查,確保正常運作。

④ 在以下條件及環境下使用時,尤其應當考量安全對策,同時希望事先與本公司協商。 A. 在明確規定外的條件、環境以及室外使用時。

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後,可使用 **"**▲ " 和 "▼ "按鍵上下移動 "**→** " (箭頭指標)

B. 用於核能、鐵道、航空、車輛、醫療器材、與飲料食品接觸的機台、娛樂機台

、緊急斷電系統、沖壓用離合器制動迴路等用途時。

C. 用於可能對人體及財產產生較大的影響、特別要求安全性的用途時。

① 在 "Unlock"的狀態下,按壓 "SET"進入"選單"

然後按壓 "SET" 選擇進入Basic Set的設定功能。

MENU

→ Basic Set

Exit

Default Set

Reset zero

Sleep mode

③ 進入 "Basic Set"頁面之後,選擇"Outl set"進入功能選單,可選擇需要

Out1 set

Back

Exit

Easy mode

的輸出模式。

Basic Set

Out1 mode

→ Out1 Set

Unit

Back

Exit

Out1 type

④ 選單內 "Back"為倒退一頁選單。

▶ 在操作狀態下,由於停電等電源被切斷時,本產品可暫時保持2次側的輸出。 另外,在大氣開放狀態下使用2次側的輸出時,由於空氣會持續溢流,因此請

/**!**\注意

▶ 如果本產品在充電狀態下切斷供給壓力,內裝的電磁閥仍持續作動,有時會 發生蜂鳴聲。由於上述之情況會對電磁閥的壽命產生很大的影響,所以在切

- ▶ 母線端成型式接頭配件是4芯線。在不使用監視器輸出 (模擬輸出、開關輸出) 的場合,可能導致失誤動作,因此應避免與其他線接觸。

▶ 本公司所有產品在出貨時均按照各自的規格進行調整。胡亂分解、各部的拆

- 卸可能導致故障,因此務必杜絕這種行為。
- ▶ 為了避免因噪聲引起的誤觸,請採取如下措施。 1. 在AC電源線上設置線路濾波器等,用以除去電源噪音。

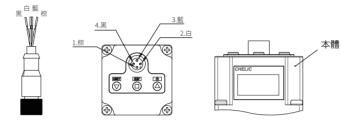
斷供給壓力時,務必切斷本產品的電源。

- 2. 本產品及本產品配線盡量遠離發動機以及動力線等強磁場環境,並避免噪
- 3. 感應電荷 (電磁閥、繼電器等) 必須採取負荷電湧防止措施。
- 4. 為了避免電源波動的影響,請在切斷電源後插拔連接器。
- ▶ 由於直角型電線連接器本身不能旋轉,因此絕對不可以轉動它。

- 3 -

① 如果配線錯誤,可能導致破損,請謹慎操作。

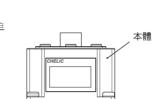
- ② 請使用足夠容量和波動小的DC電源。
- ③ 切斷電源後方可插拔連接器。
- ④ 由於直角型電纜線連接器本身不可旋轉,因此絕對不可轉動它。



端子 No.	1	2	3	4
導線色	棕	白	藍	黑
配線	電源	信號	COM	監控
▼電流型配線 ▼電壓型		型配線	●監持	空輸出配線圖
棕∏藍∏白∏黒			D	C 0.5~4.5V(僅限133型) C1~5V C 4~20mA 查 自

Vin:輸入信號 DC 0~5V A:輸入信號 DC 4~20mA





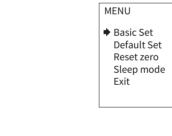
配線圈 (電源及輸入信號)

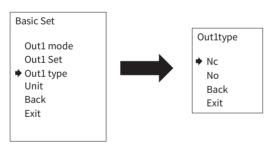
導線色	棕	白	藍	黑
配線	電源	信號	COM	監控
▼電流型配線	電流型配線 ▼電壓型配線		▼電壓型配線	
棕∭藍∭白∭黑[棕 藍	棕川藍川白川黒川		C 0.5~4.5V(僅限133型) C1~5V

Vs: 供給電源 DC 24V±10% Vs: 供給電源 DC 24V±10%

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① 在 "Unlock"的狀態下,按壓 "SET"進入"選單"。 '可使用"▲"和"▼"按鍵上下移動"▶"(箭頭指標) 然後按壓 "SET"選擇進入Basic Set的設定功能。 MENU





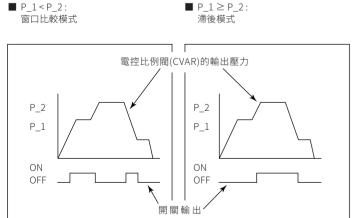
⑤ 選單內 "Exit"為直接退出選單,正常狀態下回到壓力顯示畫面。

*註1:需具有開關輸出功能的CVAR才可設定輸出模式。

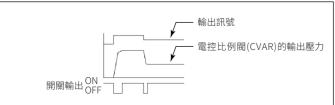
- 9 -

⑤ 選單內 "Exit"為直接退出選單,正常狀態下回到壓力顯示畫面。

诵過設定P 1和P 2,可實現下列動作。 ※ 本功能僅限於監視器輸出、開關輸出型(CVAR※0※ ※-※2, CVAR※0※ ※-※3)。



■ P_1=P_2=0的場合: 自我診斷模式



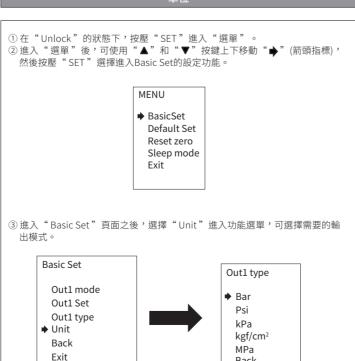
- 10 -

③ 進入 "Basic Set"頁面之後,選擇 "Outl type" 進入功能選單,可選擇需要

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④ 選單內 "Back"為倒退一頁選單。

*註1:需具有開關輸出功能的CVAR才可設定輸出模式。



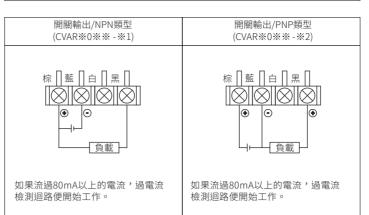
④ 選單內 "Back"為倒退一頁選單。 ⑤ 選單內 "Exit"為直接退出選單,正常狀態下回到壓力顯示畫面。

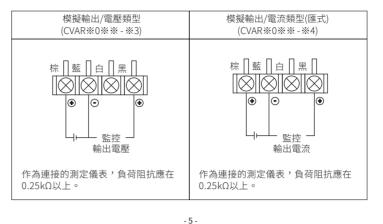
- 12 -

注意

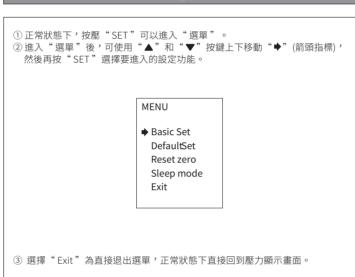
為防止作動錯誤,請避免監控輸出與其他線等接觸。

配線圈 (監視器輸出)









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① 在"Unlock"的狀態下,按壓"SET"進入"選單"。 ′後,可使用"▲″和"▼″按鍵上下移動"▶″(箭頭指標)

MENU **Basic Set Default Set** Reset zero Sleep mode Exit

然後按壓 "SET"選擇進入 "Reset zero"的設定功能。

③ 進入 "Reset zero"頁面之後,進行功能確定或是退出功能選單。

Reset zero → Yes Back

- * Yes 為執行選單功能
- * No 為不執行選單功能,並直接退出選單 * Back 為倒退一頁選單
- * Exit 為直接退出選單,正常狀態下回到壓力顯示畫面。

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① 在"Unlock"的狀態下,按壓"SET"進入"選單"。 ② 進入 "選單"後,可使用 "▲"和 "▼"按鍵上下移動 "▶"(箭頭指標),然後按壓 "SET"選擇進入 "Sleep mode"的設定功能。 MENU BasicSet **Default Set** Reset zero Sleep mode Exit ③ 進入" Sleep mode" 頁面後,可選擇睡眠啟動時間。 Sleep Mode 10s 30s 60s 180s Back

!\注意

開啟電源後進入上鎖狀態並不能操作。

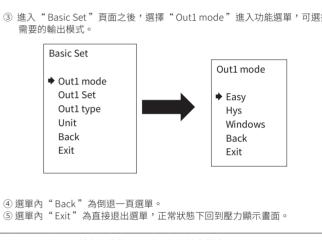
① 正常狀態下,按壓 "▲"可以上鎖電控比例閥。 ② 在"上鎖"的狀態下,長壓"▲"3秒,可以解鎖。 ③ 正常狀態下,按 "SET"即可進入 "選單"。 A. 進入 "選單"後,可使用 "▲"、"▼"按鍵上下移動 "➡"(箭頭指標) ,然後再按"SET"選擇要進入的設定功能。 B. "MENU"主選單一 MENU Basic Set Default Set Reset zero Sleep mode Exit

C. 從主選單按壓 "SET"可進入選定的子選單,進入 "子選單"後可使用 "▲"、"▼"按鍵上下移動 "➡"(箭頭指標),然後再按 "SET"選擇 要進入的設定功能。 Sleep Mode Reset zero Basic Set **→** OFF Yes ◆ Out1 mode No 5s Out1 Set 10s Back Out1 type Exit 30s Unit 60s Back 180s Exit Back Exit

-7-



③ 進入"Basic Set"頁面之後,選擇"Out1 mode"進入功能選單,可選擇 需要的輸出模式。



*註1:需具有開關輸出功能的CVAR才可設定輸出模式。

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IN OUT (大氣壓通口, 不可堵塞) (配置待抽真空物體) 閥體正面 <u>O</u>. EXH (配置真空泵) 閥體背面

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■ P_1 ≥ P_2:

(在到達設定壓力時,轉為ON。)

Back Exit

④ 選單內 "Back" 為倒退一頁選單。 ⑤ 選單內 "Exit"為直接退出選單,正常狀態下回到壓力顯示畫面。

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OPERATION MENU

E/P REGULAR MODEL NAME

CVAR.CVTR 2900 series

CATALOGUE	
CATALOG	P1
SAFETY NOTICE	P2
CAUTION FOR OPERATION	P3~4
WIRING SYSTEM	P5
DISPLAY FRAME \ MENU	P6
KEY LOCK FUNCTION	P7
OUTPUT MODE	P8
OUTPUT SETTING	P9~10
OUTPUT TYPE	P11
UNIT	P12
RESET ZERO	P13
SLEEP MODE	P14

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Please read this safety notice carefully , and pay attention to safety item while using this product , to prevent injury to human body and property dangerous , Hence , there are divided into three classes of $\,$ $\hbox{``DANGER''} \ , \ \hbox{``WARNING''} \ \ \text{and} \ \ \hbox{``CAUTION''} \ \ \text{according to the dangerous grade} \ . \ \text{No matter which class}$, they all very important content , must comply with ISO 4414 , JIS B 88370 and other safety regulations .

■ MARK INSTRUCTION

MARK	DESCRIPTION		
MARNING	Condition of operation is situated at "warning" state, may cause casualty if wrong operation.		
A CAUTION	Condition of operation is situated at "Caution" state, may cause minor or moderate injury and damage of property if wrong operation.		

/ WARNING

 ${f \mathfrak J}$ Let the designer of pneumatic system or rule tester to determine if this direction control valve is suitable or not. Let the designer of pneumatic system or rule tester analysis and determine whether this product

is suitable or not. The person should also be responsible for the performance of the system and it's security . It's necessary to pay attention to the latest product catalog and menu , consult all related matters and consider the possibility of machine failure to build an ideal system ② The product must be operated by the person who has professional knowledge and practical

Wrong operation is very dangerous, so the installation, operation and maintenance of the

air compressor equipment should be done by the person who has professional knowledge and practical experience.

 $\ensuremath{\mathfrak{B}}$ The operation and disassembly of the mechanism must be under safety condition A. Before inspect and prepare the mechanism , be sure measures have been taken for prevent the driven objects from falling and lose control .

B. Make sure to take above mentioned measures and shut off the power switch when disassemble the mechanism, to ensure the safety, please also refer and learn the product notice before start work.

C. Make sure able to handle any error operation which would happen after re-start of the mechanism. Inspection should be regularly to assure the normal operations

4 Should especially consider the security countermeasure when using under below conditions

, but at the same time , we hope you can negotiate with us in advance . A. Use in other conditions and outdoor those not stated in the catalogues

B. Using in nuclear power , railway , airway , car , medical equipment , food and drink machine , entertainment , emergency power-off system and safety machine .

C. Using in that will have great impact on human body and property

MENU

→ Basic Set

Exit

Default Set

Reset zero

Sleep mode

 $\ensuremath{\ensuremath}\amb}\amb}\amb}}}}}}}}}}}}}}$

⑤ Select "Exit" to leave the menu , normally will return to the pressure display

*Note 1 : Only CVAR with switch output function , can set the output mode .

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Out1 set

Back

Exit

Easy mode

10.86Bar

" SET " to get into the Basic Set function .

you can choose output mode you need .

Basic Set

Out1 mode

Out1 Set

Unit

Back

Exit

Out1 type

- 2 -

OUTPUT SET *NOTE 1

get into "MENU " , use " lacktriangle " and " lacktriangle " to move up and down , press

CAUTION

▶ This product can temporarily keep twice output when the power is cut off in operating state . Besides , when using twice output in open air condition

CAUTION FOR OPERATION

, the air will keep overflow , must operate carefully .

▶ If the supply pressure is cut off in a charge state, the inside solenoid valve will keep working, sometime s will beeps. As above situation will seriously affect the life of solenoid valve, please cut off the power before you cut off the pressure.

 \blacktriangleright The bus bar end connector is four-core wire . If you don't use the monitor output (analog output, switch output), will cause error operation, please avoid connecting with other wire.

▶ All of our products have been adjusted according to their specification before leaving factory . Please don't make any modification or dissemble to the structure, function of the product.

▶ In order to avoid the error caused by noise , please take the following

1. Set the line filter on AC power line to remove the power noise 2. Keep the product away from the engine and power line to avoid noise

3. Induced charge (like Solenoid Valve , relay) , must prevent them from

negative charge 4. In order to avoid the effects of power fluctuation , please cut off the power before plug the connector.

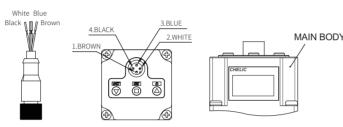
▶ The angle wire connector can not be rotate , please don't rotate it .

WIRING METHOD

① Error wiring might cause breakage, please operate carefully

3 Please cut off the power before plug the connector.

4 The angle wire connector can not be rotate, please don't rotate it.



Wiring (Power And Input Signal)

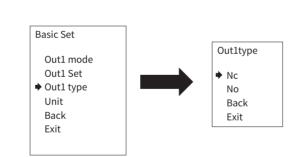
	_			
Wire Color	Brown	White	Blue	Black
Wiring	power	signal	COM	Monitoring
▼ Current Type Brown Blue White ● Vs ○ ○		e Type lue White Black	•	mA

OUTPUT MODE* NOTE 1

① Under " Unlock " state , press " SET " and get into " MENU " After get into " <code>MENU</code> " , use " $lack \Delta$ " and " $lack \Psi$ " to move up and down , press " SET" to get into the Basic Set function .



3 After get into "Basic Set" frame, select "Out1 type" to get into function menu, you can choose output mode you need.



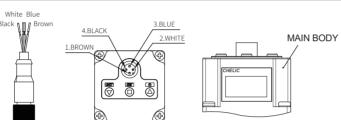
④ Select "Back" to get back to the previous page ⑤ Select "Exit" to leave the menu, normally will return to the pressure display

*Note 1 : Only CVAR with switch output function , can set the output mode .

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CAUTION

② Please use DC power which has enough capacity and with small fluctuation.



Wire Color	Brown	White	Blue	Black
Wiring	power	signal	СОМ	Monitoring
▼ Current Type	▼ Voltag	е Туре	•	or Output Circuit
Brown Blue White Black Brown B		lue White Black	▼ Analog ou (133 type DC 1~5V DC 4~20r Brown Blue	mA
● (Vs) ● (O)	A •	/s ⊙ (Vin) •		
Vs: Power DC 24V±	Vin : Inpu	r DC 24V±10% t signal DC 0~5V		Monitor
A: Input signal DC	4~20mA	DC 0~10V		output

CAUTION

Don't use monitor output will cause wrong action, so please avoid connecting

Switch output/PNP type (CVAR * 0 * * - * 2)

If an electrical current over 80mA

circuit start to work

passed through, the current detection

Analog output/current type (CVAR * 0 * * - * 4)

output (current)

The load impedance of the measuring

instrument must be over 0.25kΩ.

Wiring (Monitor Output)

Switch output/NPN type (CVAR%0%% - %1)

If an electrical current over 80mA

circuit will start work.

passed through, the current detection

Analog output/voltage type (CVAR%0% % - %3)

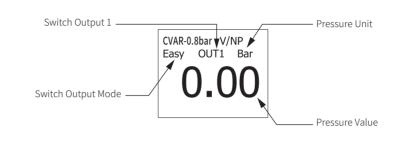
Brown Blue White Black

output (voltage)

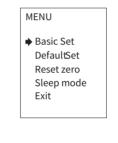
The load impedance of the measuring

instrument must be over $0.25k\Omega$.

with other wires.



① Under normal state , press the " SET " and get into the " MENU " ② After get into the "MENU", please use "▲" and "▼" button to move up and down, then press the "SET" to enter the setting view.



③ Press the "EXIT" to leave the menu, normally will return to the pressure display frame.

RESET ZERO

① Under "Unlock" state, press "SET" and get into "MENU" After get into " <code>MENU</code> " , use " $lack \Delta$ " and " lack lack V " to move up and down , press " $\ensuremath{\mathsf{SET}}$ " to get into the Reset Zero function .

> MENU Basic Set Default Set Reset zero Sleep mode Exit

③ After get into " Reset zero " frame , you can choose and confirm the function

Reset zero Yes

No

Back

Exit

* Select "Yes" to perform the function.

* Select " No " not perform the function and exit menu * Select " Back " to get back to the previous page .

 * Select " Exit " to leave the menu , normally will return

to the pressure display frame.

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SLEEP MODE

OUTPUT MODE* NOTE 1

/ CAUTION

SETTING METHOD

 $ilde{ t 1}$ Under normal state , press the " $ilde{ t L}$ " can lock the direction control valve . 2 Press the " extstyle exts

A. "MENU", please use "▲" and "▼" button to move up and down,

Basic Set

Default Set

Reset zero Sleep mode

C. Press the "SET" to get into the submenu, after get into the submenu, use " ▲ " \ " To move up and down, press the "SET" to enter the

Sleep Mode

→ OFF

5s

10s

30s

60s

180s

Back

Exit

③ Under normal state, press the "SET" and get into the "MENU"

MENU

Exit

Reset zero

→ Yes

No

Back

Exit

then press the "SET" to enter the setting view.

Can not operate when enter into lock mode

B. " MFNU "-

setting view

Basic Set

Unit

Back

Exit

→ Out1 mode

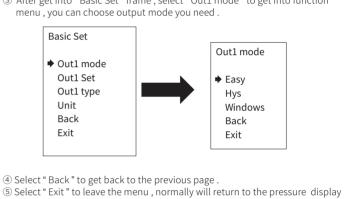
Out1 Set

Out1 type

① Under " Unlock " state , press " SET " and get into " MENU " ② After get into "MENU", use "▲ "and "▼" to move up and down, press "SET" to get into the Basic Set function.

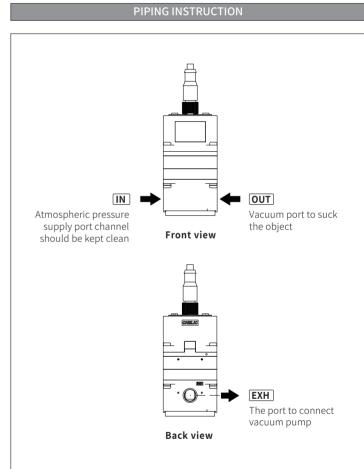
> MENU → Basic Set Default Set Reset zero Sleep mode Exit

③ After get into "Basic Set" frame, select "Out1 mode" to get into function menu, you can choose output mode you need.



*Note 1: Only CVAR with switch output function, can set the output mode.

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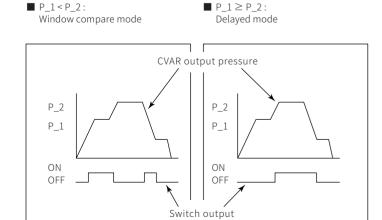


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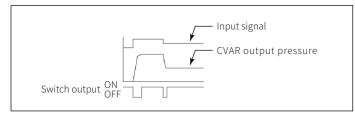
Below function can be achieved by setting P_1 and P_2. * Only monitor output and switch output have this function

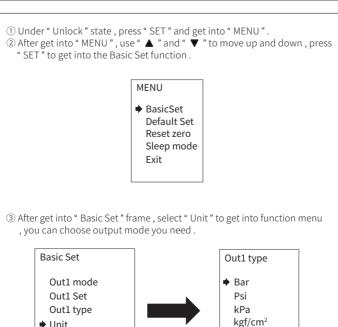
(CVAR*0* *-*2, CVAR*0* *-*3) o

4 Select "Back" to get back to the previous page.



■ P_1=P_2=0: Self-diagnostic mode (When reach the set pressure, turn to ON.)





Unit MPa Back Back Exit Exit ④ Select "Back" to get back to the previous page. frame.

① Under " Unlock " state, press " SET " and get into " MENU " . ② After get into " MENU " , use " ▲ " and " ▼ " to move up and down, press " SET " to get into the Sleep mode function \circ MENU BasicSet Default Set Reset zero → Sleep mode Exit ③ After get into " Sleep mode " frame, can set the startup time of sleep mode. Sleep Mode OFF 10s 30s

60s 180s Back Exit ④ Select "Back" to get back to the previous page. frame.

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