

Thank you for purchasing the OMRON Product. To ensure the safe application of the Product, read this manual carefully before using the Product and always keep it close at hand when the Product is in use.

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1148308-3B

For details, refer to the latest datasheet (Cat. No. L111).

Suitability for Use

OMRON shall not be responsible for conformity with any standards, codes, or regulations that apply to the combination of the products in the customer's application or use of the product. Take all necessary steps to determine the suitability of the product for the systems, machines, and equipment with which it will be used.

SAFETY PRECAUTIONS

Keys to Warning Symbols

CAUTION Indicates a potentially hazardous situation which, if not avoided, is likely to result in minor or moderate injury or in property damage.

CAUTION

- Do not allow pieces of metal, wire clippings, or fine metallic shavings or fillings from installation to enter the product.
Minor injury due to explosion may occasionally occur. Do not use the Timer where subject to flammable or explosive gas.
Fire may occasionally occur. Tighten the terminal screws to the rated torque.
Minor injury due to electric shock may occasionally occur. Do not touch any of the terminals while power is being supplied.

Minor electric shock, fire, or malfunction may occasionally occur. Do not disassemble, modify, or repair the Timer or touch internal components.

Precautions for Safe Use

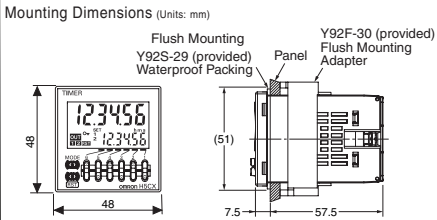
- When mounting the Timer to a panel, tighten the two mounting screws alternately, a little at a time, so as to keep them at an equal tightness.
Store the Timer at the specified temperature.
Mounting the Timer side-by-side may reduce the life expectancies of internal components.
Do not use in the following locations: Locations subject to sudden or extreme changes in temperature.
Use the Timer within the specified ranges for the ambient operating temperature and humidity.

- When in the remaining time mode, the amount the set value is changed is added to or subtracted from the present value.
Confirm that indications are working normally, including the backlight LED, and LCD.

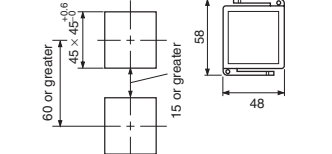
Precautions for Correct Use

- H5CX models with a 12 to 24-VDC power supply use a transformer-free power supply method in which the power supply terminals are not isolated from the signal input terminals.
An inrush current of approx. 10 A will flow for a short time when the power supply is turned ON.

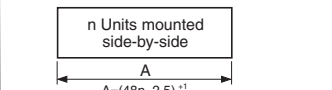
Mounting and Panel-cutout Dimensions Diagram



Panel-cutout Dimensions Diagram (Units: mm) Panel cutouts are as shown below. (according to DIN43700) To allow easier operation, it is recommended that Adapters be mounted so that the gap between sides with hooks is at least 15 mm.



Note 1: The mounting panel thickness should be 1 to 5 mm. Note 2: It is possible to mount Timers side by side, but only in the direction without the hooks.



Note 3: If the Timers are mounted side by side, water resistance will be lost.

Ratings (Specifications)

Power supply voltage 12 to 24 VDC
Allowable voltage fluctuation range 90% to 110% rated supply voltage
Power consumption Approx. 2.3 W
Operating temperature range -10 to 55°C (-10 to 50°C if Timers are mounted side by side)

Storage temperature range -25 to 70°C (with no icing or condensation)
Operating humidity range 25% to 85%
Altitude 2,000 m max.

Recommended fuse T2A, 250 VAC, time-lag, low-breaking capacity
Weight Approx. 10.5 g (main unit only)
Installation environment Pollution degree 2/overvoltage category III (IEC 61812-1)

Control output Solid state output: Open collector, 30 VDC max., 100 mA max. Residual voltage: 1.5 VDC max. (Effective value: Approx. 1 V) Leakage current: 0.1 mA max. IEC IP66, UL508 Type 4X*

Degree of protection * Individual mounting: Degree of protection on the front panel of the Timer conforms to UL 508 Type 4X when all of the following conditions are satisfied:

- The Y92S-29 waterproof packing and Y92F-30 mounting adapter are used with the Timer.
The Timer is mounted on the flat surface of an enclosure that is rated and marked "Type 4X for Indoor Use Only."

Conformance to EN/IEC Standards

When conforming to EMC standards, refer to the information provided in this Instruction Manual for cable selection and other conditions.

This is a class A product. In residential areas it may cause radio interference, in which case the user may be required to take adequate measures to reduce interference.

No insulation is provided between the power supply and input terminals. Basic insulation is provided between the power supply and output terminals.

Precautions for Compliance with UL Standards and CSA Standards

Notice to Users of the H5CX in the USA and Canada

Please use the following installation information instead of the general information in the instruction manuals in order to use the product under certified conditions of UL and CSA when the product is installed in the USA or Canada.

- Installation in a Panel: H5CX is normally installed on a flat surface in an operation panel.
Use an isolated source for power input.
Use the isolated source for Inputs and Solid State Output.

Table with 4 columns: Mounting Adapter, Waterproof Packing, Y92F-30, Y92S-29

Nomenclature

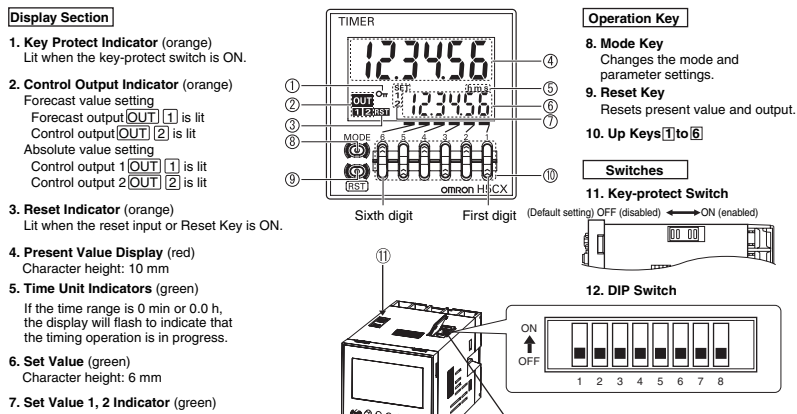


Table for basic settings with columns: Item, OFF, ON, Pin 1, Pin 2, Time range

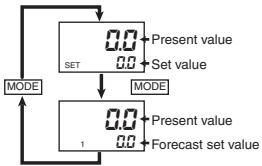
Note: 1. All the pins are factory-set to OFF. 2. DIP switch settings are effective when the power is turned ON again.

- Key Protect Level: When the key-protect switch is ON, key operations are prohibited according to the settings for DIP switch pins 6 to 8.

Operating Procedures

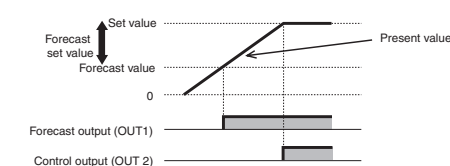
Forecast Value Setting

Operation in Run Mode



Each time the [MODE] Key is pressed, the set value display (5) will switch between the set value and the forecast set value.

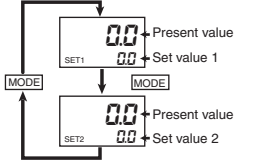
Basic Operation



- The control output (output 2) turns ON when the present value reaches the set value.
Forecast output (OUT1) turns ON when the present value reaches the forecast value.

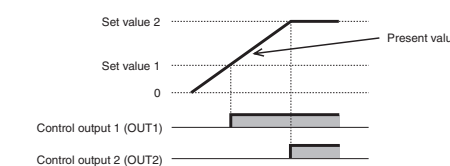
Absolute Value Setting

Operation in Run Mode



Each time the [MODE] Key is pressed, the set value display (5) will switch between set value 1 and set value 2.

Basic Operation



- OUT1 (control output 1) turns ON when the present value reaches set value 1.
OUT2 (control output 2) turns ON when the present value reaches set value 2.

I/O Functions

Table with 4 columns: Start signal, Inputs, Outputs, and functions like Starts timing, Resets present value, etc.

Input Connections

The inputs of the Timer are no-voltage (short-circuit or open) inputs or voltage inputs.

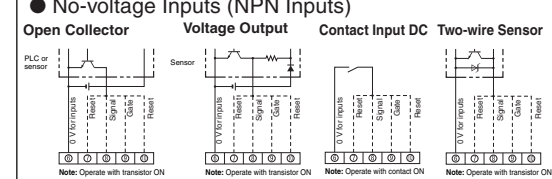


Table for No-voltage Input Signal Levels with columns: No-contact input, Contact input, and signal levels.

Table for Voltage Inputs (PNP Inputs) showing No-contact Input (NPN Transistor), No-contact Input (PNP Transistor), and Contact Input connections.

Table for Voltage Input Signal Levels with columns: High level (Input ON), Low level (Input OFF), and signal levels.

Operation in Function Setting Mode

Note: Refer to the datasheet (Cat. No. L111) for detailed parameter settings.

Change from RUN Mode to Function Setting Mode.



Set the parameters using the [F] Key.

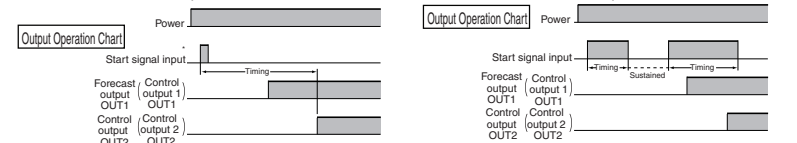
The characters displayed in reverse video are the default settings.

Table for function setting mode with columns: Display, Parameter name, Set value, Comments

*1: After reaching the last set value, the [F] Key will return to the first set value.

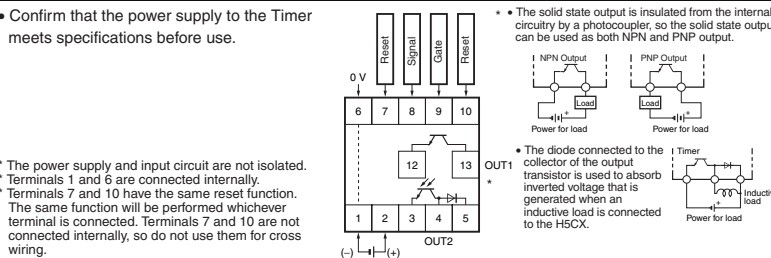
Output Mode

- Mode A: Signal ON delay (Timer resets when power comes ON).
Mode F-1: Cumulative (Timer does not reset when power comes ON).



*Start signal input is disabled during timing. The names in parentheses are used for the absolute value setting.

Terminal Arrangement



- The power supply and input circuit are not isolated. Terminals 1 and 6 are connected internally.
Terminals 7 and 10 have the same reset function.

Self-diagnostic Function

Table for self-diagnostic function with columns: Main display, Subdisplay, Error, Output status, Correction method, Set value after reset

*1. This includes times when the life of the EEPROM has expired. *2. The normal display and E3 will appear alternately. When the Reset Key is pressed, E3 will no longer be displayed even if the alarm set value is exceeded.

OMRON EUROPE B.V. Wegalaan 67-69-2132 JD Hoofddorp, The Netherlands

OMRON ELECTRONICS LLC (U.S.A.) Tel: (1) 847-843-7900/Fax: (1) 847-843-7787

OMRON ASIA PACIFIC PTE. LTD. (SINGAPORE) Tel: (65) 6835-3011/Fax: (65) 6835-2711

OMRON (CHINA) CO., LTD. Tel: (86) 21-5037-2222/Fax: (86) 21-5037-2200

形 H5CX-B□-N デジタルタイマ

JPN 取扱説明書

オムロン製品をお買い上げいただきありがとうございます。この製品を安全に正しく使用していただくために、お使いになる前にこの取扱説明書をお読みになり、十分にご理解ください。

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詳細は、最新版のカタログ (SGTA-028) を参照してください。

ご使用に際してのご承諾事項

下記用途に使用される場合、当社営業担当者までご相談の上仕様書などにより確認いただくとともに、定格・性能に引続き余裕を持った使い方や、万一故障があっても危険を最小にする安全回路などの安全対策を講じてください。

安全上のご注意

警告表示の意味



正しい取扱いをしなれば、この危険のために、時に軽傷・中程度の傷害をおったり、あるいは物的損害を受ける恐れがあります。



軽度の感電、発火、機器の故障が稀に起こる恐れがあります。製品の中に金属、導線または、取り付け加工中の切粉などが入らないようにしてください。

爆発により稀に軽度の傷害の恐れがあります。引火性、爆発性ガスのある所では使用しないでください。

発火が稀に起こる恐れがあります。端子ネジは下記の規定トルクで締めてください。H5CX本体端子：6.55 ~ 7.97 Lb-In (0.74 ~ 0.90 N・m)

感電により軽度の傷害が稀に起こる恐れがあります。通電中は端子に触らないでください。また、配線後、必ず端子カバーを取り付けてください。

軽度の感電、発火、機器の故障が稀に起こる恐れがあります。分解、改造、修理したり、内部に触らないでください。

安全上の要点

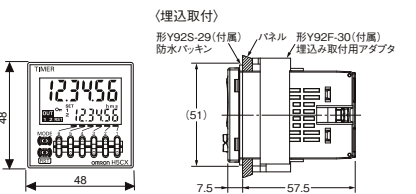
- 1) パネルへの取り付けの際は2ヶ所のねじを交互にバランスを取りながらしっかりと締め付けてください。バランスがとれていない場合、パネルの内部に水が浸入する可能性があります。

使用上の注意

- 1) 形H5CXシリーズのDC12~24V電源タイプは電源端子と信号入力端子間が絶縁されていない電源トランス方式とされています。非絶縁タイプのDC電源を使用する場合は、配線には十分ご注意ください。

取付およびパネル加工寸法図

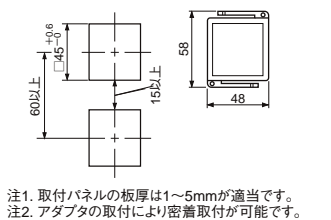
取付寸法図 (単位:mm)



- 製品本体
● 取扱説明書 (本紙)
● 取付アダプタ、防水パッキン、端子カバー

パネル加工寸法図 (単位:mm)

標準パネルカットは下図のとおりです。(DIN43700 準拠) アダプタのフック側方への取付間隔は、作業性を考慮すると15mm以上 (パネルカット間隔60mm以上) あげてください。



- 注1. 取付パネルの板厚は1~5mmが適当です。
注2. アダプタの取付により密着取付が可能です。(ただしフックのない方向のみ)
注3. 密着取り付け時は、耐水性が失われます。

定格 (仕様)

Table with 2 columns: Specification Name and Value. Includes DC voltage (12-24V), power consumption (2.3W), operating temperature (-10 to +55°C), and protection class (IP66).

EN/IEC 規格対応について

EMCに適合するための、ケーブル選定・その他の条件については、本取扱説明書の記載内容を参照してください。この商品は「class A」(工業環境商品)です。

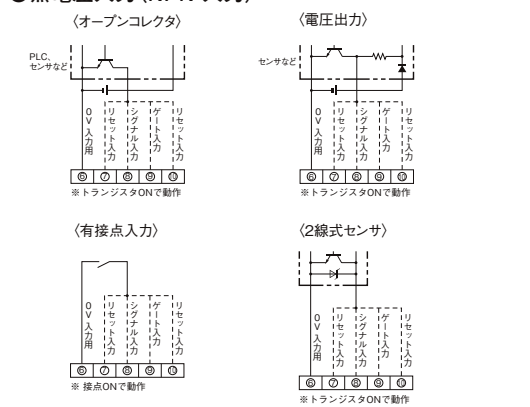
入出力機能

Table describing input and output functions: Signal (timer start), Reset, Gate, and Output (ON/OFF control).

入力の接続

各入力は無電圧入力 (短絡・開放入力)、電圧入力の切換です。

無電圧入力 (NPN 入力)



各部の名称とはたらき

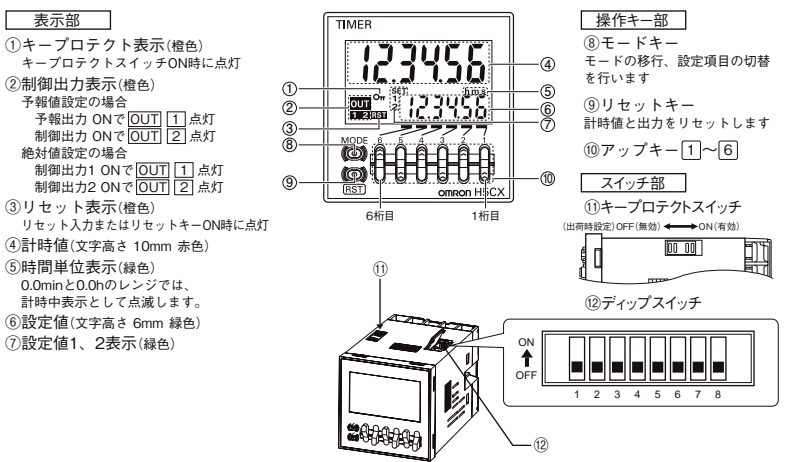


Table of basic functions and settings, including time range, output mode, and input types.

基本機能の設定はディップスイッチだけで行います。... キープロテクトについては、キープロテクトスイッチ「ON」時は、ディップスイッチ 6 ~ 8 の設定に応じて、各キーの操作を禁止し、誤設定を防止することができます。

機能設定モードでの操作

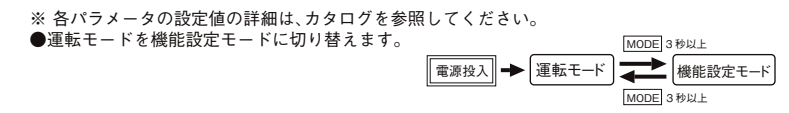
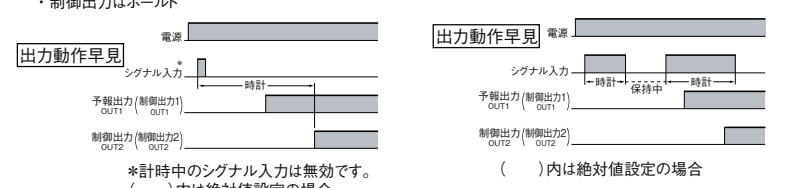


Table for function setting mode, listing parameters like absolute value setting, output limits, and output counts.

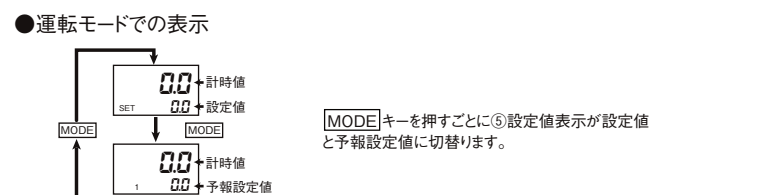
出力モード

- Aモード (シグナルオンデラワー: 電源リセット動作)
● F-1モード (積算: 電源保持動作)
● シグナル許可機能 (シグナルオフ中、電源中は計時停止)
● 制御出力はホールド

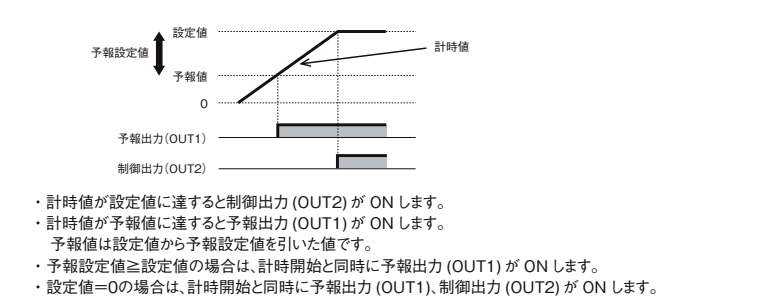


操作方法

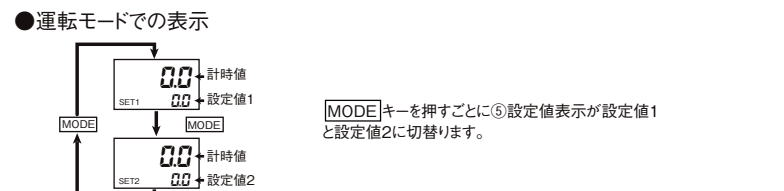
予報値設定の場合



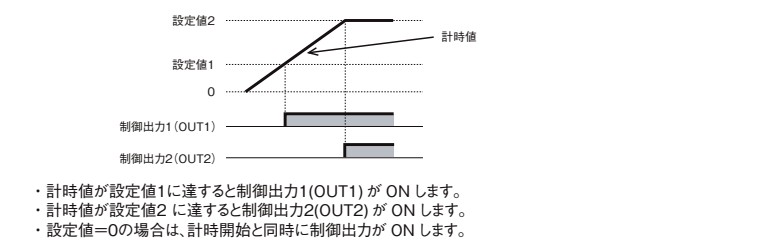
基本動作の説明



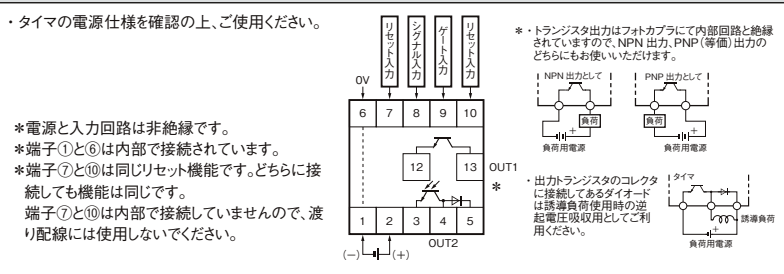
絶対値設定の場合



基本動作の説明



端子配置



自己診断機能

Table showing error codes and their corresponding messages, such as E1 (CPU error) and E2 (RAM error).

オムロン株式会社 インダストリアルオートメーションビジネスカンパニー 営業統轄事業部 東京都品川区大崎1-11-1 ゲートシティ大崎 ウェストタワー14F (〒141-0032)

● 技術的なお問い合わせ 0120-919-066 (フリーコール)
● FAXによるお問い合わせ テクニカルセンター お客様相談室 FAX 055-982-5015
● インターネットによるお問い合わせ/FAQ (よくあるご質問) の検索はオムロン Industrial Webをご利用ください。