

温度調節器（デジタル調節計）（22.5mm幅DINレール取り付けタイプ）

E5DC-CX2DBM-015



商品概要

Digital Temperature Controller, 22.5 mm wide, Linear current output, Auxiliary output: 2, Power supply voltage: 24 VAC/VDC, Push-In Plus terminal block model, Universal inputs, RS-485

販売状況

2026/05/21 00:00 情報更新

| | |
|----------|----------|
| 販売状況 | 販売中 |
| 機種区分 | 標準在庫機種 |
| 標準価格(税別) | ¥ 40,000 |

推奨代替品の最新情報につきましては、当社Webサイト(www.fa.omron.co.jp)の「生産終了品/推奨代替品」をご覧ください。
在庫状況/標準価格の最新情報につきましては、当社Webサイト(www.fa.omron.co.jp)の「在庫状況/標準価格照会」をご覧ください。

詳細情報

Ratings / Performance

情報更新：2025/11/04

Ratings

| | | |
|----------------------------------|----------------------------------|--|
| Shape | | 22.5 mm wide |
| Fixed/Programmable | | Fixed |
| Power supply voltage | | 24 VAC (50/60 Hz) 24 VDC |
| Allowable voltage variable range | | 85 to 110% of the power supply voltage |
| Power consumption | | 1.5 W max. (at 24 VDC) 2.8 VA max. (at 24 VAC) |
| Input | Number of input points | 1 point |
| | Temperature input | Thermocouple: K, J, T, E, L, U, N, R, S, B, C/W, PLII Platinum resistance thermometer: Pt100, JPt100 Infrared Thermosensor (ES1B): 10 to 70 °C, 60 to 120 °C, 115 to 165 °C, 140 to 260 °C |
| | Analog input | 4 to 20 mA or 0 to 20 mA |
| | Input impedance | Current input: 150 Ω max., voltage input: 1 MΩ min. (Applicable when connecting 1:1 to ES2-HB-N/THB-N.) |
| Control method | | ON/OFF control or 2-PID control (with auto-tuning) |
| Control output | Number of total control output | 1 point |
| | Control output 1 | Linear current output |
| | Control output 2 | None |
| | Linear current output | 1 point 4 to 20 mA DC / 0 to 20 mA DC, Load: 500 Ω max., Resolution: approx. 10000 |
| Auxiliary output | Number of total auxiliary output | 2 point |
| | Relay output | SPST-NO relay outputs: 250 VAC, 2 A (resistive load), Electrical life: 100,000 operations, Minimum applicable load: 10 mA at 5 V (reference value) |
| Transfer output | | 1 point (control output alternative) |
| Setting method | | Digital setting using front panel keys (with protection function) |
| Indication method | | 11-segment digital display and individual indicators |
| Multi SP functions | | Up to eight set points (SP0 to SP7) can be saved and selected using key operations, or serial communications. |

| | | |
|---------------------------------|-----------------------|--|
| Sampling period | | 50 ms |
| Hysteresis | | Temperature input: 0.1 to 999.9 °C or °F (in units of 0.1 °C or °F) Analog input: 0.01 to 99.99% FS (in units of 0.01% FS) |
| Proportional band | | Temperature input: 0.1 to 999.9 °C or °F (in units of 0.1 °C or °F) Analog input: 0.1 to 999.9% FS (in units of 0.1% FS) |
| Integral time | | 0 to 9999 s (in units of 1 s), 0.0 to 999.9 s (in units of 0.1 s) |
| Derivative time | | 0 to 9999 s (in units of 1 s), 0.0 to 999.9 s (in units of 0.1 s) |
| for cooling | Proportional band (P) | Temperature input: 0.1 to 999.9 °C or °F (in units of 0.1 °C or °F) Analog input: 0.1 to 999.9% FS (in units of 0.1% FS) |
| | Integral time (I) | 0 to 9999 s (in units of 1 s), 0.0 to 999.9 s (in units of 0.1 s) |
| | Derivative time (D) | 0 to 9999 s (in units of 1 s), 0.0 to 999.9 s (in units of 0.1 s) |
| Control period | | 0.1 s, 0.2 s, 0.5 s, 1 to 99 s (in units of 1 s) |
| Manual reset value | | 0.0% to 100.0% (in units of 0.1%) |
| Insulation resistance | | Between charged terminals and exposed uncharged parts: 20 MΩ min. (500 VDC) Between current-carrying terminals: 20 MΩ min. (500 VDC) Between non-continuous contacts: 20 MΩ min. (500 VDC) |
| Dielectric strength | | 3,000 VAC 50/60 Hz 1 min (Between current-carrying terminals of different polarity) |
| Vibration resistance | | Destruction: 10 to 55 Hz, 20 m/s ² for 2 h each in X, Y, and Z directions Malfunction: 10 to 55 Hz, 20 m/s ² for 10 min each in X, Y, and Z directions |
| Shock resistance | | Destruction: 300 m/s ² , 3 times each in X, Y, and Z directions Malfunction: 100 m/s ² , 3 times each in X, Y, and Z directions |
| Ambient temperature (Operating) | | -10 to 55 °C (with no freezing or condensation) For 3-year warranty with standard mounting: -10 to 50 °C (with no freezing or condensation) |
| Ambient temperature (Storage) | | -25 to 65 °C (with no freezing or condensation) |
| Ambient humidity (Operating) | | 25 to 85 % |
| Altitude | | 2000 m max. |
| Degree of protection | | Main unit: IP20, Terminal unit: IP00 |
| Memory protection | | Non-volatile memory (number of writes: 1,000,000) |
| Case color | | Black (N1.5) |

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|-----------------|--|
| Terminal type | Push-In Plus Terminal Block |
| Accessories | Two of Instruction Manual, One of Compliance information sheet, One of Connector Cover |
| Weight | Main Unit: Approx. 80 g Models with Push-In Plus Terminal Unit: Approx. 40 g |
| Sold separately | Push-In Plus Terminal Block Unit: E5DC-SCT1B USB Serial Conversion Cable: E58-CIFQ2 Communications Conversion Cable: E58-CIFQ2-E Mounting adapter: Y92F-53 Unit label: Y92S-L2 CX-Thermo Support Software: EST2-2C-MV4 DIN Tracks: PFP-100N/PFP-50N Spacer: PFP-S End Plate: PFP-M End Cover: Y92F-54 Connector cover: E53-COV26 |

Accuracy

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|---------------------------------------|---|
| Indication accuracy | Thermocouple: ($\pm 0.3\%$ of indicated value or $\pm 1^\circ\text{C}$, whichever is greater) ± 1 digit max. Platinum resistance thermometer: ($\pm 0.2\%$ of indicated value or $\pm 0.8^\circ\text{C}$, whichever is greater) ± 1 digit max. Analog input: $\pm 0.2\%$ FS ± 1 digit max. (The indication accuracy of K thermocouples in the -200 to 1300°C range, T and N thermocouples at a temperature of -100°C max., and U and L thermocouples at any temperatures is $\pm 2^\circ\text{C}$ ± 1 digit max. B thermocouple at a temperature of 400°C max. is not specified. B thermocouples in the 400 to 800°C range is $\pm 3^\circ\text{C}$ max. R and S thermocouples at a temperature of 200°C max. is $\pm 3^\circ\text{C}$ ± 1 digit max. C/W thermocouples is ($\pm 0.3\%$ PV or $\pm 3^\circ\text{C}$, whichever is greater) ± 1 digit max. PL II thermocouples is ($\pm 0.3\%$ PV or $\pm 2^\circ\text{C}$, whichever is greater) ± 1 digit max.) |
| Simple transfer output accuracy | $\pm 0.3\%$ FS (However, the precision between 0 and 4 mA for a 0 to 20 mA output is $\pm 1\%$ FS max.) |
| Influence of temperature/voltage | Thermocouple: R, S, B, C/W, and PLII: ($\pm 1\%$ of indicated value or $\pm 10^\circ\text{C}$, whichever is greater) ± 1 digit max. Other thermocouple: ($\pm 1\%$ of indicated value or $\pm 4^\circ\text{C}$, whichever is greater) ± 1 digit max.. However K thermocouple at -100°C max.: $\pm 10^\circ\text{C}$ max. Platinum resistance thermometer: ($\pm 1\%$ of indication value or $\pm 2^\circ\text{C}$, whichever is greater) ± 1 digit max. Analog input: $\pm 1\%$ FS ± 1 digit max. Ambient temperature: -10 to 23 to 55°C , Voltage range: -15 to 10% of rated voltage |
| Influence of EMS. | Thermocouple: R, S, B, C/W, and PLII: ($\pm 1\%$ of indicated value or $\pm 10^\circ\text{C}$, whichever is greater) ± 1 digit max. Other thermocouple: ($\pm 1\%$ of indicated value or $\pm 4^\circ\text{C}$, whichever is greater) ± 1 digit max.. However K thermocouple at -100°C max.: $\pm 10^\circ\text{C}$ max. Platinum resistance thermometer: ($\pm 1\%$ of indication value or $\pm 2^\circ\text{C}$, whichever is greater) ± 1 digit max. Analog input: $\pm 1\%$ FS ± 1 digit max. |
| Influence of signal source resistance | Thermocouple: $0.1^\circ\text{C}/\Omega$ max. ($100\ \Omega$ max.) Platinum resistance thermometer: $0.1^\circ\text{C}/\Omega$ max. ($10\ \Omega$ max.) |

Communication characteristics

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|------------------------------|--------------------------------|
| Transmission path connection | Multidrop (RS-485) |
| Communications method | RS-485 (two-wire, half duplex) |

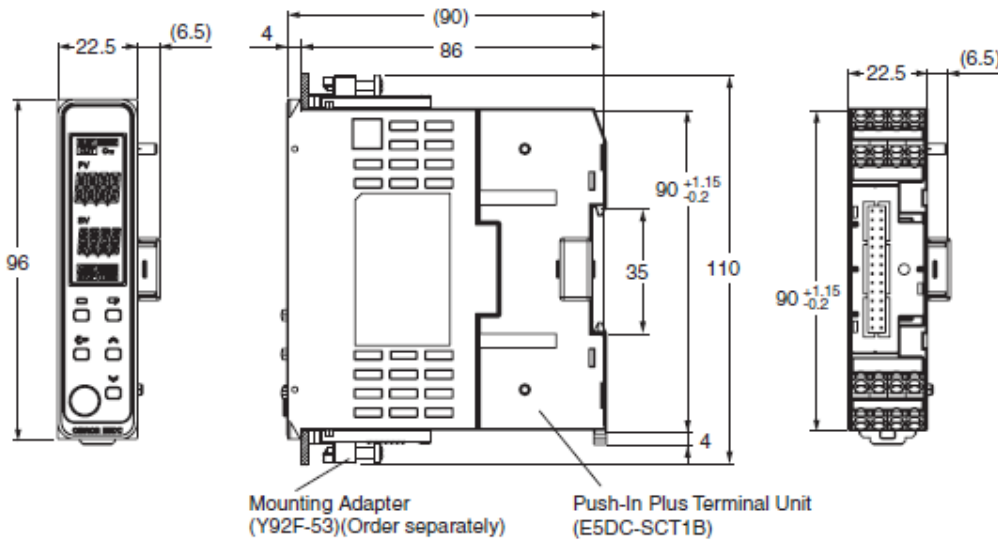
| | |
|------------------------------------|---|
| Synchronization method | Start-stop synchronization |
| Protocol | CompoWay/F, Modbus, Component communications, Host link (FINS), MC protocol (format 4), Dedicated protocol (format 4) |
| Communication speed | 9600, 19200, 38400, 57600 bps |
| Transmission code | ASCII |
| Data bit length | 7 or 8 bits |
| Stop bit length | 1 or 2 bits |
| Error detection | Vertical parity (none, even, odd) Block check character (BCC) with CompoWay/F CRC-16 Modbus |
| Flow control | None |
| Interface | RS-485 |
| Retry function | None |
| Communications buffer | 217 bytes |
| Communications response send delay | 0 to 99 ms (Default: 20 ms) |

Communication function

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|-------------------------------------|--|
| Programless communications function | You can use the memory in the PLC to read and write E5□C parameters, start and stop operation, etc. The E5□C automatically performs communications with PLCs. No communications programming is required. Number of connected Digital Temperature Controllers: 32 max. (Up to 16 for the FX Series) |
| Component communications | When Digital Temperature Controllers are connected, set points and RUN/STOP commands can be sent from the Digital Temperature Controller that is set as the master to the Digital Temperature Controllers that are set as slaves. Slope and offsets can be set for the set point. Number of connected Digital Temperature Controllers: 32 max. (including master) |
| Copying | When Digital Temperature Controllers are connected, the parameters can be copied from the Digital Temperature Controller that is set as the master to the Digital Temperature Controllers that are set as slaves. |

Dimensions

情報更新：2025/11/04



- Setup Tool ports are provided as standard feature. Use these ports to connect a computer to the Digital Temperature Controller. The E58-CIFQ2 USB-Serial Conversion Cable is required to connect to the port on the bottom panel. The E58-CIFQ2 USB-Serial Conversion Cable and E58-CIFQ2-E Communications Conversion Cable are required to connect to the port on the front panel. (You cannot leave either port connected constantly during operation.)

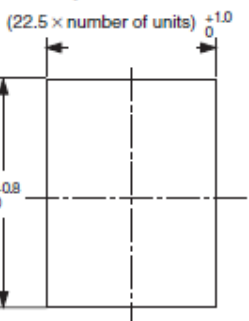
Mounted Separately



Two-Unit Mounting



Group Mounted



- Recommended panel thickness is 1 to 8 mm.
- Group mounting is not possible in the vertical direction. (Maintain the specified mounting space between Controllers.)
- When two or more Digital Temperature Controllers are mounted, make sure that the surrounding temperature does not exceed the allowable operating temperature specified in the specifications.

Connection diagram

情報更新：2025/11/04

E5DC-B (Models with Push-In Plus Terminal Blocks)



- Note:**
1. The application of the terminals depends on the model.
 2. Do not wire the terminals that are shown with a gray background.
 3. When complying with EMC standards, the cable that connects the sensor must be 30 m or less. If the cable length exceeds 30m, compliance with EMC standards will not be possible.
 4. Refer to Wiring Precautions for E5DC-B (Controllers with Push-In Plus Terminal Blocks) on page 133 for wire specifications and wiring methods.
 5. Due to UL Listing requirements, use the E54-CT1L or E54-CT3L Current Transformer with the factory wiring (internal wiring). Use a UL category XOBA or XOBA7 current transformer that is UL Listed for field wiring (external wiring) and not the factory wiring (internal wiring).
 6. The terminal layout is different than models with screw terminal blocks. Check the terminal arrangement before wiring.
 7. The event input specification main unit is not used with models with Push-In Plus terminal blocks.

Input ranges list

情報更新：2025/11/04

Thermocouple/Platinum Resistance Thermometer (Universal inputs)



Shaded settings are the default settings.

The applicable standards for the input types are as follows:

K, J, T, E, N, R, S, B: JIS C 1602-2015, IEC 60584-1

JPt100: JIS C 1604-1989, JIS C 1606-1989

L: Fe-CuNi, DIN 43710-1985

Pt100: JIS C 1604-1997, IEC 60751

U: Cu-CuNi, DIN 43710-1985

PL II: According to Platine II electromotive force charts from BASF (previously Engelhard)

C/W: W5Re/W26Re, JIS C 1602-2015, ASTM E988-1990

Analog input

| Input type | Current | | Voltage | | |
|---------------------|---|------------|----------|----------|-----------|
| Input specification | 4 to 20 mA | 0 to 20 mA | 1 to 5 V | 0 to 5 V | 0 to 10 V |
| Setting range | Usable in the following ranges by scaling: -1999 to 9999, -199.9 to 999.9, -19.99 to 99.99 or -1.999 to 9.999 | | | | |
| Set value | 25 | 26 | 27 | 28 | 29 |



Alarm mode list

情報更新：2025/11/04

Each alarm can be independently set to one of the following 17 alarm types. The default is 2: Upper limit. (See note.)

Auxiliary outputs are allocated to alarms. ON delays and OFF delays (0 to 999 s) can also be specified.

Note: In the default settings for models with HB or HS alarms, alarm 1 is set to a heater alarm (HA) and the Alarm Type 1 parameter is not displayed. To use alarm 1, set the output assignment to alarm 1.

| Set value | Alarm type | Alarm output operation | | Description of function |
|-------------|--|--|--|--|
| | | When alarm value X is positive | When alarm value X is negative | |
| 0 | Alarm function OFF | Output OFF | | No alarm |
| 1 | Upper- and lower-limit *1 | ON OFF  | *2 | Set the upward deviation in the set point for the alarm upper limit (H) and the lower deviation in the set point for the alarm lower limit (L). The alarm is ON when the PV is outside this deviation range. |
| 2 (default) | Upper-limit | ON OFF  | ON OFF  | Set the upward deviation in the set point by setting the alarm value (X). The alarm is ON when the PV is higher than the SP by the deviation or more. |
| 3 | Lower-limit | ON OFF  | ON OFF  | Set the downward deviation in the set point by setting the alarm value (X). The alarm is ON when the PV is lower than the SP by the deviation or more. |
| 4 | Upper- and lower-limit range *1 | ON OFF  | *3 | Set the upward deviation in the set point for the alarm upper limit (H) and the lower deviation in the set point for the alarm lower limit (L). The alarm is ON when the PV is inside this deviation range. |
| 5 | Upper- and lower-limit with standby sequence *1 | ON OFF  | *4 | A standby sequence is added to the upper- and lower-limit alarm (1). *6 |
| 6 | Upper-limit with standby sequence | ON OFF  | ON OFF  | A standby sequence is added to the upper-limit alarm (2). *6 |
| 7 | Lower-limit with standby sequence | ON OFF  | ON OFF  | A standby sequence is added to the lower-limit alarm (3). *6 |
| 8 | Absolute-value upper-limit | ON OFF  | ON OFF  | The alarm will turn ON if the process value is larger than the alarm value (X) regardless of the set point. |
| 9 | Absolute-value lower-limit | ON OFF  | ON OFF  | The alarm will turn ON if the process value is smaller than the alarm value (X) regardless of the set point. |
| 10 | Absolute-value upper-limit with standby sequence | ON OFF  | ON OFF  | A standby sequence is added to the absolute-value upper-limit alarm (8). *6 |
| 11 | Absolute-value lower-limit with standby sequence | ON OFF  | ON OFF  | A standby sequence is added to the absolute-value lower-limit alarm (9). *6 |
| 12 | LBA (alarm 1 type only) | - | | *7 |
| 13 | PV change rate alarm | - | | *8 |
| 14 | SP absolute-value upper-limit alarm | ON OFF  | ON OFF  | This alarm type turns ON the alarm when the set point (SP) is higher than the alarm value (X). |
| 15 | SP absolute-value lower-limit alarm | ON OFF  | ON OFF  | This alarm type turns ON the alarm when the set point (SP) is lower than the alarm value (X). |
| 16 | MV absolute-value upper-limit alarm *9 | Standard Control ON OFF  | Standard Control ON OFF  | This alarm type turns ON the alarm when the manipulated variable (MV) is higher than the alarm value (X). |
| | | Heating/Cooling Control (Heating MV) ON OFF  | Heating/Cooling Control (Heating MV) ON OFF  | |
| 17 | MV absolute-value lower-limit alarm *9 | Standard Control ON OFF  | Standard Control ON OFF  | This alarm type turns ON the alarm when the manipulated variable (MV) is lower than the alarm value (X). |
| | | Heating/Cooling Control (Cooling MV) ON OFF  | Heating/Cooling Control (Cooling MV) ON OFF  | |

RoHS/REACH対応状況

情報更新：2026/5/20

EU RoHS

| 対応状況 ※1 | 対応予定月 ※2 | 非含有証明書 ※3 |
|--|----------|----------------------------|
|  対応済み | | ダウンロードはこちら |

中国 RoHS

| 中国 RoHS表 ※1※2 | | | | | | | | | | |
|---------------|----|----|--------|------|-------|-----|------|-----|------|--------------|
| Pb | Hg | Cd | Cr(VI) | PBBs | PBDEs | DBP | DIBP | BBP | DEHP | 環境保護 使用期限 |
| X | O | O | O | O | O | O | O | O | O | 10 |

- ・“対応済み”や非含有の記載がされた商品であっても、流通在庫等で未対応品が混在する可能性があります。
- ・非含有品が必要な際は、弊社営業部門もしくは販売店へお問い合わせください。

[この製品のRoHS/REACH対応状況ページへ>](#)

注意事項・凡例

”対応済み”で記載される商品であっても、流通在庫等で未対応品が混在する可能性があります。
非含有品が必要な際は、弊社営業部門もしくは販売店へお問い合わせください。

※1 対応状況

- ・  対応済み : EU RoHS指令（10物質）の非含有に対応した製品が提供可能な商品です。
- ・ 対応予定 : EU RoHS指令（10物質）の非含有に対応した製品に切り替える予定のある商品です。
- ・ 対応予定なし : EU RoHS指令（10物質）の非含有に非対応の商品で、対応品を出す予定はありません。
- ・ 調査・確認中 : EU RoHS指令（10物質）の非含有の対応状況を調査中または確認中の商品です。
- ・ 非該当品 : ライセンス料など無形物で、有害物質有無と関係のない商品です。

仕入先様の事情により、非含有部品としていたものが、含有品と判明した場合などやむを得ず変更することがあります。

* EU RoHS指令（10物質）：

鉛(Pb) 1000ppm以下、水銀(Hg) 1000ppm以下、カドミウム(Cd) 100ppm以下、六価クロム(Cr(VI)) 1000ppm以下、
ポリ臭化ビフェニル類(PBB) 1000ppm以下、ポリ臭化ジフェニルエーテル類(PBDE) 1000ppm以下、
フタル酸ビス(2-エチルヘキシル) (DEHP)(別名：DOP) 1000ppm以下、フタル酸ブチルベンジル (BBP) 1000ppm以下、
フタル酸ジブチル (DBP) 1000ppm以下、フタル酸ジイソブチル (DIBP) 1000ppm以下
但し、RoHS指令で産業用監視および制御機器に対する適用除外項目は除く。
フタル酸エステル類の4物質については閾値を超える意図的な使用がないことを確認しています。

※2 対応予定月

部品在庫の切り替え状況などにより、予定月が前後することがあります。

※3 非含有証明書ダウンロード

下記の非含有証明書をダウンロードすることができます。

- ・ EU RoHS指令（10物質）の非含有証明書
- ・ 49物質の非含有証明書（当社基準）

※ 本証明書は発行日時時点で非含有を証明するもので、過去に遡って非含有を証明するものではありません。

また、RoHS指令のフタル酸エステル類4物質の対応では、対応完了までの期間は出荷製品に未対応品が混在することから備考欄に
対応日を記載しておりました。

既に当社にて対応品への在庫切替を完了していることから、特段のことがない限り、2022年1月12日より割愛しております。

規格認証/適合状況

| UL認証 | CSA認証 | CEマーキング | CCC認証 | 電波法 |
|------|-------|---------|-------|-----|
| Yes | Yes | Yes | N/A | N/A |

| LR型式承認 （イギリス 船舶規格） | DNV型式承認 （ノルウェー 船舶規格） | BV型式承認 （フランス 船舶規格） | KR型式承認 （韓国 船舶規格） | NK型式承認 （日本 船舶規格） | ABS型式承認 （アメリカ 船舶規格） |
|--------------------------|----------------------------|--------------------------|------------------------|------------------------|---------------------------|
| No | No | No | No | No | No |

[この製品の規格認証/適合状況ページへ>](#)
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