

TDK DC to DC Converters, DC to AC Inverters

For fluorescent display panels

40E D ■ 8821248 0005006 4 ■ TDKA

T D K CORP

T-57-29

CD SERIES CONVERTERS FOR DRIVING FLUORESCENT DISPLAY PANELS

Various fluorescent display panels are made by NEC Corporation, Ise Electronics Corporation (distributed by Noritake Co., Ltd.) and Futaba Corporation. The drive voltage, power consumption and drive system all differ according to the type of fluorescent display panel and since a multiple output power supply is required for the filament, anode, grid and cathode bias, the supply of a voltage from a converter can be said to display the greatest convenience.

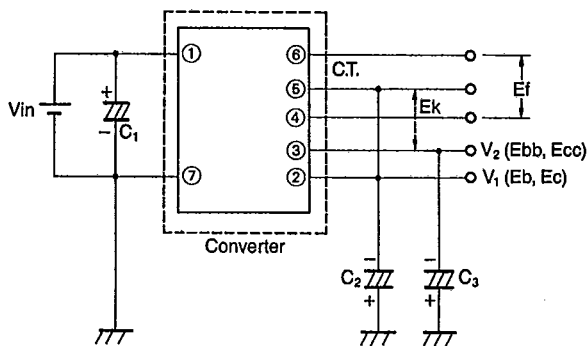
TEMPERATURE AND HUMIDITY RANGES

| | |
|-----------------------------|---|
| Operating temperature range | 0 to +50°C [32 to 122°F] |
| Storage temperature range | -20 to +80°C [-4 to +176°F] |
| Humidity | 90%RH max. (Maximum wet-bulb temperature: 38°C [100.4°F]) |

CONNECTIONS AND DRIVE CIRCUITS

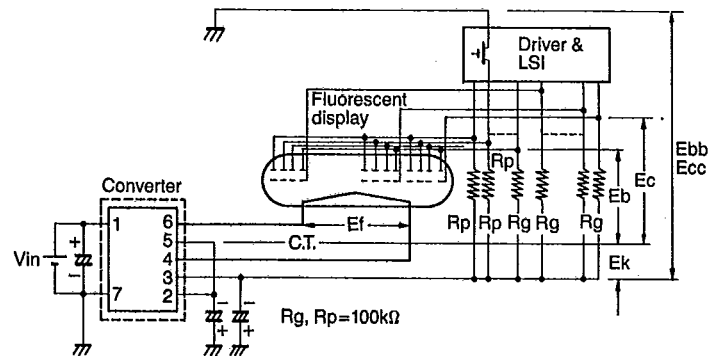
A. Negative voltage output type

Connections



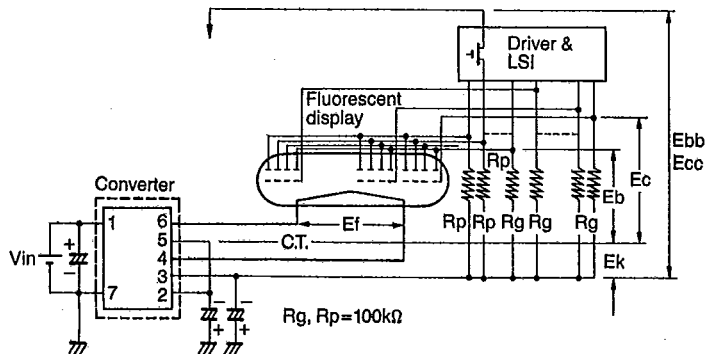
- Ef (filament voltage) A center tap (CT) is provided. Floating (insulated) A.C. r.m.s. output.
- V₁ (Eb, Ec): D.C. negative voltage output; anode, grid supply voltage.
- V₂ (Ebb, Ecc): D.C. negative voltage output; voltage for obtaining cathode bias voltage (Ek); Ek=(Ebb, Ecc) - (Eb, Ec); no output is provided with a display panel which does not require Ek.
- C₁, C₂, C₃: External smoothing capacitors; dielectric strength and capacitance are shown when samples are supplied.

Drive circuit-1



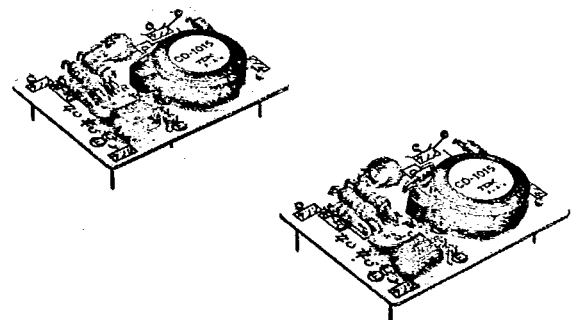
- When the anode and grid potential is ground potential, standard converters are designed to use with this drive circuit-1.

Drive circuit-2



- When the anode and grid potential is +5V (TTL level), standard converters cannot be used with this drive circuit-2.

If a converter is required for this drive circuit, specify "bias drive."



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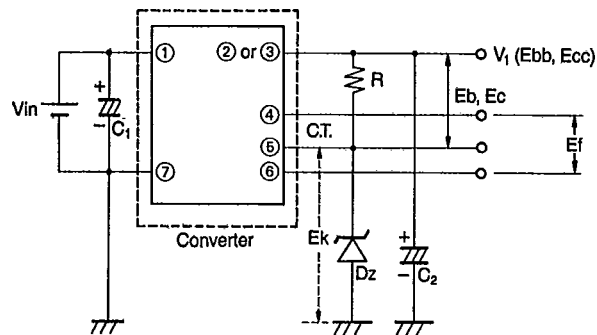
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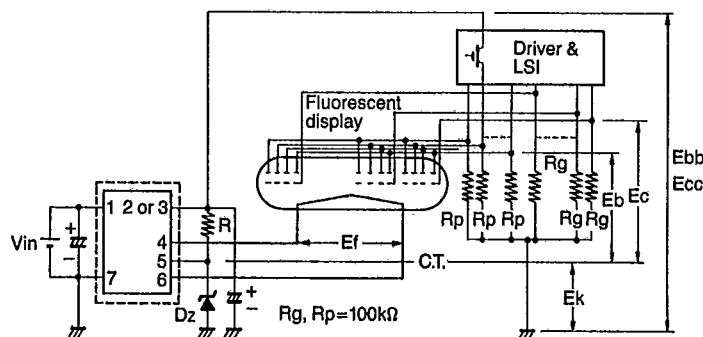
B. Positive voltage output type

Connections



- Ef (filament voltage): A center tap (CT) is provided. Floating (insulated) A.C. r.m.s. output.
- V_1 (Ebb, Ecc): D.C. positive output voltage; anode and grid supply voltage inclusive of cathode bias voltage (E_k).
- C_1, C_2 : External smoothing capacitors; dielectric strength and capacitance are shown when samples are supplied.
- D_z, R : D_z and R are connected to obtain the cathode bias voltage (E_k) and for the zener voltage (V_z), select 0.5 to 1.0V above the E_k voltage of display panel. Set the zener current (I_z) by R from 1 to 2 mA. However, with display panels which do not require E_k , D_z and R are not necessary, and the V_1 output voltage is the supply voltage of only the anode and grid.
- Set the E_k voltage for a dot type panel to the grid elimination voltage (Ecco) plus 2 to 3V. When E_k is not required D_z and R are not necessary and the V_1 output voltage becomes the supply voltage for the anode and grid only.

Drive circuit



DC positive output (V_1) terminal

| Shapes and dimensions*1 | Terminal No. |
|-------------------------|--------------|
| C-1 | 2 |
| C-2 | 2 or 3*2 |
| C-3 | 3 |
| C-4 | 3 |
| C-5 | 2 or 3*2 |

*1 See page 175

*2 Please consult us.

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ELECTRICAL CHARACTERISTICS

Applications: Electronic cash registers (ECRs, POS systems) and others

For NEC fluorescent display

| TDK converter Part No. | Output characteristics | | | | | | Shapes and dimensions* | Suitable display type NEC No. |
|------------------------|------------------------|----------------|----------------------|----------------------|----------------------------|----------------------------|------------------------|-------------------------------|
| | Ef r.m.s. (V) | If (mAac) typ. | V ₁ (Vdc) | V ₂ (Vdc) | I ₁ (mAdc) max. | I ₂ (mAdc) max. | | |
| CD-1601N | 3.5 | 78 | -42 | -48 | 19.5 | 3.9 | C-3 | FIP8A11 |
| CD-1601P | 3.5 | 78 | 48 | — | 25.4 | — | C-3 | FIP8A11 |
| CD-1602N | 4.6 | 75 | -45 | -56 | 15.9 | 5.1 | C-3 | FIP9A13A |
| CD-1602P | 4.6 | 75 | 56 | — | 23 | — | C-4 | FIP9A13A |
| CD-1603N | 5.1 | 75 | -45 | -56 | 20.4 | 5.1 | C-4 | FIP10A13 |
| CD-1603P | 5.1 | 75 | 56 | — | 27.5 | — | C-4 | FIP10C13 |
| CD-1604N | 5.0 | 120 | -35 | -43 | 19.5 | 4.3 | C-4 | FIP10B13 |
| CD-1604P | 5.0 | 120 | 43 | — | 25.8 | — | C-4 | FIP10B13A |
| CD-1605N | 5.2 | 120 | -42 | -50 | 27 | 5.0 | C-4 | FIP13B13 |
| CD-1605P | 5.2 | 120 | 50 | — | 34 | — | C-4 | FIP13B13 |

* Refer to page 175.

For ISE fluorescent display

| TDK converter Part No. | Output characteristics | | | | | | Shapes and dimensions* | Suitable display type ISE No. |
|------------------------|------------------------|----------------|----------------------|----------------------|----------------------------|----------------------------|------------------------|-------------------------------|
| | Ef r.m.s. (V) | If (mAac) typ. | V ₁ (Vdc) | V ₂ (Vdc) | I ₁ (mAdc) max. | I ₂ (mAdc) max. | | |
| CD-1701N | 4.0 | 18 | -22 | -26.5 | 3.5 | 2.4 | C-1 | FG116C6 |
| CD-1701P | 4.0 | 18 | 26.5 | — | 7.9 | — | C-1 | FG116C6 |
| CD-1702N | 5.5 | 55 | -30 | -36.5 | 9.6 | 3.3 | C-3 | FG139A1 |
| CD-1702P | 5.5 | 55 | 36.5 | — | 14.9 | — | C-3 | FG139A1 |
| CD-1703N | 5.2 | 55 | -15 | -21 | 22 | 8.4 | C-3 | FG79C6 |
| CD-1703P | 5.2 | 55 | 21 | — | 32.4 | — | C-3 | FG79C6 |
| CD-1704N | 3.0 | 55 | -24 | -28 | 11.3 | 2.6 | C-2 | FG511E6 |
| CD-1704P | 3.0 | 55 | 28 | — | 15.9 | — | C-2 | FG511E6 |
| CD-1705N | 4.7 | 120 | -35 | -40 | 15.8 | 3.5 | C-3 | FG913ES1 |
| CD-1705P | 4.7 | 120 | 40 | — | 21.3 | — | C-3 | FG913ES1 |
| CD-1706N | 5.0 | 120 | -35 | -40 | 19.5 | 3.8 | C-3 | FG1013RS1 |
| CD-1706P | 5.0 | 120 | 40 | — | 25.3 | — | C-4 | FG1013RS1 |
| CD-1707N | 5.7 | 73 | -30 | -36 | 22.5 | 3.6 | C-3 | FG914RB1 |
| CD-1707P | 5.7 | 73 | 36 | — | 28.1 | — | C-3 | FG914RB1 |

* Refer to page 175.

For FUTABA fluorescent display

| TDK converter Part No. | Output characteristics | | | | | | Shapes and dimensions* | Suitable display type FUTABA No. |
|------------------------|------------------------|----------------|----------------------|----------------------|----------------------------|----------------------------|------------------------|----------------------------------|
| | Ef r.m.s. (V) | If (mAac) typ. | V ₁ (Vdc) | V ₂ (Vdc) | I ₁ (mAdc) max. | I ₂ (mAdc) max. | | |
| CD-1801N | 4.2 | 78 | -26.5 | -34 | 15 | 3.4 | C-3 | 11-MT-61ZA |
| CD-1801P | 4.2 | 78 | 34 | — | 20.4 | — | C-3 | 11-MT-61ZA |
| CD-1802N | 4.6 | 75 | -34 | -41 | 19.5 | 4.1 | C-3 | 9-LT-03Z |
| CD-1802P | 4.6 | 75 | 41 | — | 25.6 | — | C-3 | 9-LT-03Z |

* Refer to page 175.

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Applications: Digital clocks, timers and others

For NEC fluorescent display

| TDK converter Part No. | Output characteristics | | | | | | Shapes and dimensions* | Suitable display type NEC No. |
|------------------------|------------------------|----------------|----------------------|----------------------|----------------------------|----------------------------|------------------------|---|
| | Ef r.m.s. (V) | If (mAac) typ. | V ₁ (Vdc) | V ₂ (Vdc) | I ₁ (mAac) max. | I ₂ (mAac) max. | | |
| CD-1621N | — | — | -24 | -27 | 11.6 | 2.5 | C-1 | FIP4A8 FIP4A8A FIP4B8 FIP4C9 |
| CD-1621P | — | — | 27 | — | 16.1 | — | C-2 | |
| CD-1622N | 2.3 | 75 | -26 | -30.5 | 9 | 2.8 | C-2 | FIP5D3 |
| CD-1622P | 2.3 | 75 | 30.5 | — | 13.8 | — | | FIP5D13A |
| CD-1623N | 3.0 | 75 | -18 | — | 26.2 | — | C-3 | FIP5A15S FIP5A15CS FIP5D15S FIP5E15S |
| CD-1623P | 3.0 | 75 | 18 | — | 26.2 | — | | |

* Refer to page 175.

For ISE fluorescent display

| TDK converter Part No. | Output characteristics | | | | | | Shapes and dimensions* | Suitable display type ISE No. |
|------------------------|------------------------|----------------|----------------------|----------------------|----------------------------|----------------------------|------------------------|-------------------------------|
| | Ef r.m.s. (V) | If (mAac) typ. | V ₁ (Vdc) | V ₂ (Vdc) | I ₁ (mAac) max. | I ₂ (mAac) max. | | |
| CD-1721N | 2.5 | 120 | -26 | -29.5 | 18.8 | 3.0 | C-3 | FG413D1 |
| CD-1721P | 2.5 | 120 | 29.5 | — | 23.8 | — | | |
| CD-1722N | 4.0 | 73 | -26 | -31 | 24.5 | 3.4 | C-3 | FG515F1 |
| CD-1722P | 4.0 | 73 | 31 | — | 30 | — | | |

* Refer to page 175.

For FUTABA fluorescent display

| TDK converter Part No. | Output characteristics | | | | | | Shapes and dimensions* | Suitable display type FUTABA No. |
|------------------------|------------------------|----------------|----------------------|----------------------|----------------------------|----------------------------|------------------------|--|
| | Ef r.m.s. (V) | If (mAac) typ. | V ₁ (Vdc) | V ₂ (Vdc) | I ₁ (mAac) max. | I ₂ (mAac) max. | | |
| CD-1821N | 2.4 | 75 | -26 | -30.5 | 13.2 | 3.1 | C-2 | 4-MT-032A 4-MT-072B 5-LT-31Z 5-LT-33Z |
| CD-1821P | 2.4 | 75 | 30.5 | — | 16.5 | — | C-3 | |
| CD-1822N | 3.0 | 120 | -26 | -30.5 | 24 | 3.1 | C-3 | 4-LT-21ZA1 |
| CD-1822P | 3.0 | 120 | 30.5 | — | 29.1 | — | | |
| CD-1823N | 3.0 | 75 | -18 | — | 29.6 | — | C-3 | 4-LT-16Z |
| CD-1823P | 3.0 | 75 | 18 | — | 29.6 | — | | 5-LT-16Z |
| CD-1824N | 2.4 | 75 | -15 | — | 22.8 | — | C-2 | 4-LT-26Z |
| CD-1824P | 2.4 | 75 | 15 | — | 22.8 | — | | 5-LT-36Z |

* Refer to page 175.

TDK DC to DC Converters, DC to AC Inverters

For fluorescent display panels

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Applications: Audio equipment, video equipment, analog instrumentation and others

For NEC fluorescent display

| TDK converter Part No. | Output characteristics | | | | | | Shapes and dimensions* | Suitable display type NEC No. |
|------------------------|------------------------|----------------|----------------------|----------------------|----------------------------|----------------------------|------------------------|--|
| | Ef r.m.s. (V) | If (mAac) typ. | V ₁ (Vdc) | V ₂ (Vdc) | I ₁ (mAdc) max. | I ₂ (mAdc) max. | | |
| CD-1641N | 2.6 | 53 | -24 | -28 | 11.6 | 2.5 | C-2 | FIP5E8 FIP6A8A FIP6A8B |
| CD-1641P | 2.6 | 53 | 28 | — | 16.1 | — | | |
| CD-1642N | 2.7 | 73 | -24 | -27.5 | 10.8 | 2.6 | C-2 | FIP6B8 |
| CD-1642P | 2.7 | 73 | 27.5 | — | 15.4 | — | | |
| CD-1643N | 2.3 | 75 | -26 | -31 | 7.5 | 2.7 | C-2 | FIP6C8 |
| CD-1643P | 2.3 | 75 | 31 | — | 12.2 | — | | |
| CD-1644N | 3.0 | 100 | -16 | -17.5 | 32.1 | 4.2 | C-3 | FIP24B17YS FIP24A15YS FIP24A17YS |
| CD-1644P | 3.0 | 100 | 17.5 | — | 38.3 | — | | |
| CD-1645N | 5.4 | 78 | -24 | -31 | 84 | 6.2 | C-4 | FIP101B8Y FIP101B8AY |
| CD-1645P | 5.4 | 78 | 31 | — | 92.2 | — | | |
| CD-1646N | 2.7 | 196 | -30 | -33.5 | 74 | 21 | C-4 | FIP60B30T |
| CD-1646P | 2.7 | 196 | 33.5 | — | 97 | — | | |

* Refer to page 175.

For ISE fluorescent display

| TDK converter Part No. | Output characteristics | | | | | | Shapes and dimensions* | Suitable display type ISE No. |
|------------------------|------------------------|----------------|----------------------|----------------------|----------------------------|----------------------------|------------------------|-------------------------------|
| | Ef r.m.s. (V) | If (mAac) typ. | V ₁ (Vdc) | V ₂ (Vdc) | I ₁ (mAdc) max. | I ₂ (mAdc) max. | | |
| CD-1741N | 2.7 | 115 | -15 | -22 | 31 | 3.3 | C-3 | FG28SJ1 |
| CD-1741P | 2.7 | 115 | 22 | — | 36.3 | — | | |
| CD-1742N | 5.5 | 37 | -40 | -47 | 13 | 10.4 | C-3 | FG100SA1 FG202SA1 |
| CD-1742P | 5.5 | 37 | 47 | — | 25.4 | — | | |

* Refer to page 175.

For FUTABA fluorescent display

| TDK converter Part No. | Output characteristics | | | | | | Shapes and dimensions* | Suitable display type FUTABA No. |
|------------------------|------------------------|----------------|----------------------|----------------------|----------------------------|----------------------------|------------------------|----------------------------------|
| | Ef r.m.s. (V) | If (mAac) typ. | V ₁ (Vdc) | V ₂ (Vdc) | I ₁ (mAdc) max. | I ₂ (mAdc) max. | | |
| CD-1841N | 2.1 | 75 | -8 | — | 11.3 | — | C-1 | 7-BT-02Z |
| CD-1841P | 2.1 | 75 | 8 | — | 11.3 | — | | |
| CD-1842N | 3.6 | 75 | -30 | -36 | 10.5 | 3.6 | C-3 | 8-MT-01Z |
| CD-1842P | 3.6 | 75 | 36 | — | 16.1 | — | | |
| CD-1843N | 3.3 | 75 | -15 | — | 30.6 | — | C-2 | 7-LT-02Z |
| CD-1843P | 3.3 | 75 | 15 | — | 30.6 | — | | |
| CD-1844N | 3.0 | 75 | -16 | — | 24 | — | C-2 | BG-41Z |
| CD-1844P | 3.0 | 75 | 16 | — | 24 | — | | |
| CD-1845N | 3.0 | 75 | -18 | — | 28.8 | — | C-3 | BG-42Z |
| CD-1845P | 3.0 | 75 | 18 | — | 28.8 | — | | |
| CD-1846N | 4.5 | 22 | -22 | -30 | 4.4 | 3 | C-1 | 17-ST-22ZA |
| CD-1846P | 4.5 | 22 | 30 | — | 9.4 | — | | |
| CD-1847N | 3.3 | 78 | -26 | -30.5 | 12 | 3.1 | C-2 | 6-LT-15Z |
| CD-1847P | 3.3 | 78 | 30.5 | — | 17.1 | — | | |
| CD-1848N | 5.2 | 120 | -34.5 | -43 | 32.3 | 4.3 | C-4 | 6-JS-03Z |
| CD-1848P | 5.2 | 120 | 43 | — | 38.6 | — | | |

* Refer to page 175.

TDK DC to DC Converters, DC to AC Inverters

For fluorescent display panels

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Applications: Data terminals and others (dot type)

For NEC fluorescent display

| TDK converter Part No. | Output characteristics | | | | | | Shapes and dimensions* | Suitable display type NEC No. |
|------------------------|------------------------|----------------|----------------------|----------------------|----------------------------|----------------------------|------------------------|-------------------------------|
| | Ef r.m.s. (V) | If (mAac) typ. | V ₁ (Vdc) | V ₂ (Vdc) | I ₁ (mAac) max. | I ₂ (mAac) max. | | |
| CD-1661N | 5.5 | 55 | -30 | -37 | 7.8 | 7.8 | | |
| CD-1661P | 5.5 | 55 | 37 | — | 17.6 | — | C-3 | FIP11A8X |
| CD-1662N | 6.8 | 90 | -35 | -43 | 14.4 | 9.1 | | |
| CD-1662P | 6.8 | 90 | 43 | — | 25.5 | — | C-4 | FIP16A11X |
| CD-1663N | 5.1 | 78 | -35 | -43 | 15.0 | 10.9 | C-3 | |
| CD-1663P | 5.1 | 78 | 43 | — | 27.9 | — | C-4 | FIP20B9X |
| CD-1664N | 6.1 | 60 | -45 | -53 | 6.3 | 11.2 | | |
| CD-1664P | 6.1 | 60 | 53 | — | 19.5 | — | C-3 | FIP32A5X |
| CD-1665N | 8.4 | 78 | -42 | -51.5 | 22.5 | 12.9 | | |
| CD-1665P | 8.4 | 78 | 51.5 | — | 37.4 | — | C-4 | FIP32A9X |
| CD-1666N | 8.9 | 78 | -45 | -54 | 9.3 | 11.4 | | |
| CD-1666P | 8.9 | 78 | 54 | — | 22.7 | — | C-4 | FIP40A5X |
| CD-1667N | 9.7 | 78 | -45 | -54 | 24.0 | 14.3 | | |
| CD-1667P | 9.7 | 78 | 54 | — | 40.3 | — | C-4 | FIP40B9X |
| CD-1668N | 4.8 | 156 | -48 | -54.5 | 30 | 11.9 | | |
| CD-1668P | 4.8 | 156 | 54.5 | — | 43.9 | — | C-4 | FIP60A5X |
| CD-1669N | 9.0 | 156 | -45 | -56 | 45 | 12.2 | | |
| CD-1669P | 9.0 | 156 | 56 | — | 59.2 | — | C-5 | FIP80A5X |
| CD-1670N | 9.3 | 160 | -55 | -66.5 | 30 | 16.6 | | |
| CD-1670P | 9.3 | 160 | 66.5 | — | 48.6 | — | C-5 | FIP80A6X |
| CD-1671N | 9.0 | 208 | -45 | -56 | 45 | 14 | | |
| CD-1671P | 9.0 | 208 | 56 | — | 61 | — | C-5 | FIP80A9X |
| CD-1672N | 8.2 | 200 | -48 | -58.5 | 27 | 12.7 | | |
| CD-1672P | 8.2 | 200 | 58.5 | — | 41.7 | — | C-5 | FIP160A4X |

* Refer to page 175.

For ISE fluorescent display

| TDK converter Part No. | Output characteristics | | | | | | Shapes and dimensions* | Suitable display type ISE No. |
|------------------------|------------------------|----------------|----------------------|----------------------|----------------------------|----------------------------|------------------------|-------------------------------|
| | Ef r.m.s. (V) | If (mAac) typ. | V ₁ (Vdc) | V ₂ (Vdc) | I ₁ (mAac) max. | I ₂ (mAac) max. | | |
| CD-1761N | 3.6 | 22 | -24 | -30 | 4.5 | 6.3 | C-1 | |
| CD-1761P | 3.6 | 22 | 30 | — | 12.8 | — | C-2 | DC95A2 |
| CD-1762N | 5.3 | 120 | -35 | -44 | 18 | 9.2 | | |
| CD-1762P | 5.3 | 120 | 44 | — | 29.2 | — | C-4 | DC1015A2 |
| CD-1763N | 6.0 | 20 | -28 | -36 | 4.5 | 7.5 | | |
| CD-1763P | 6.0 | 20 | 36 | — | 14 | — | C-2 | DC165A2 |
| CD-1764N | 4.8 | 120 | -35 | -43.5 | 13 | 9.1 | | |
| CD-1764P | 4.8 | 120 | 43.5 | — | 24.1 | — | C-4 | DC169A2A |
| CD-1765N | 5.7 | 37 | -35 | -43.5 | 6.3 | 9.1 | | |
| CD-1765P | 5.7 | 37 | 43.5 | — | 17.4 | — | C-3 | DC205A2 |
| CD-1766N | 6.4 | 120 | -35 | -45 | 13 | 9.4 | | |
| CD-1766P | 6.4 | 120 | 45 | — | 24.4 | — | C-4 | DC209A2 |
| CD-1767N | 9.0 | 78 | -45 | -55 | 13 | 11.5 | | |
| CD-1767P | 9.0 | 78 | 55 | — | 26.7 | — | C-4 | DC406A2 |
| CD-1769N | 9.7 | 78 | -45 | -57 | 22.5 | 11.9 | | |
| CD-1769P | 9.7 | 78 | 57 | — | 36.4 | — | C-4 | DC409A2 |
| CD-1770N | 9.3 | 160 | -55 | -72 | 16.5 | 18 | | |
| CD-1770P | 9.3 | 160 | 72 | — | 36.5 | — | C-5 | DC806A2 |
| CD-1771N | 10.7 | 230 | -60 | -77 | 27 | 19.3 | | |
| CD-1771P | 10.7 | 230 | 77 | — | 48.3 | — | C-5 | DC809B2 |
| CD-1772N | 9.0 | 156 | -45 | -55 | 33.8 | 12 | | |
| CD-1772P | 9.0 | 156 | 55 | — | 47.8 | — | C-5 | DC40026B2 |
| CD-1773N | 9.3 | 240 | -55 | -72 | 22.5 | 18 | | |
| CD-1773P | 9.3 | 240 | 72 | — | 42.5 | — | C-5 | DC80025C2 |
| CD-1774N | 7.6 | 200 | -60 | -77 | 19.8 | 16.7 | | |
| CD-1774P | 7.6 | 200 | 77 | — | 38.5 | — | C-5 | DM256X26F |

* Refer to page 175.

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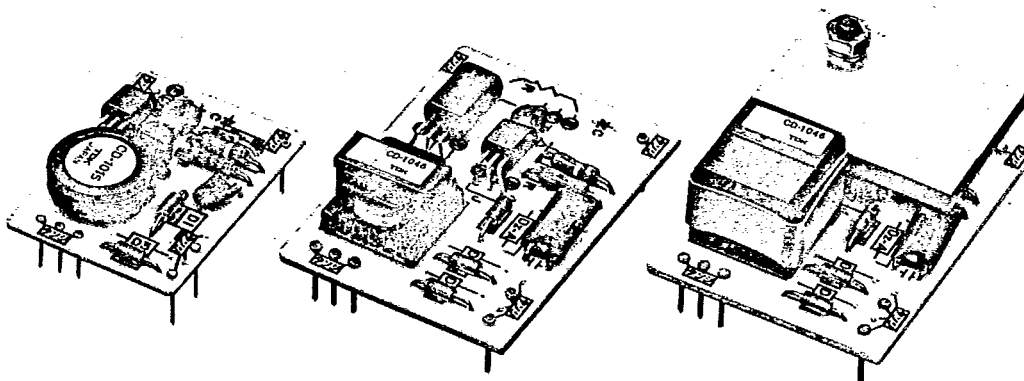
T-57-29

Applications: Data terminals and others (dot type)

For FUTABA fluorescent display

| TDK converter Part No. | Output characteristics | | | | | | Shapes and dimensions* | Suitable display type FUTABA No. |
|------------------------|------------------------|----------------|----------------------|----------------------|----------------------------|----------------------------|------------------------|----------------------------------|
| | Ef r.m.s. (V) | If (mAac) typ. | V ₁ (Vdc) | V ₂ (Vdc) | I ₁ (mAdc) max. | I ₂ (mAdc) max. | | |
| CD-1861N | 5.0 | 78 | -25 | -31.5 | 15 | 8.1 | | |
| CD-1861P | 5.0 | 78 | 31.5 | — | 25.1 | — | C-3 | 20-SD-41Z |
| CD-1862N | 4.9 | 22 | -25 | -31 | 7.3 | 6.5 | C-1 | |
| CD-1862P | 4.9 | 22 | 31 | — | 12.9 | — | C-2 | 16-SD-01Z |
| CD-1863N | 7.3 | 75 | -32 | -41 | 8.1 | 10.5 | | |
| CD-1863P | 7.3 | 75 | 41 | — | 20.6 | — | C-3 | 32-SD-41Z |
| CD-1864N | 7.8 | 156 | -40 | -49 | 27 | 10.2 | | |
| CD-1864P | 7.8 | 156 | 49 | — | 39.2 | — | C-4 | 402-SD-02Z |
| CD-1865N | 5.4 | 153 | -30 | -37.5 | 13.5 | 7.8 | | |
| CD-1865P | 5.4 | 153 | 37.5 | — | 23.3 | — | C-4 | 28-BD-01Z |
| CD-1866N | 5.5 | 135 | -34 | -41 | 7.9 | 10.5 | | |
| CD-1866P | 5.5 | 135 | 41 | — | 20.4 | — | C-4 | 40-SD-41Z |
| CD-1867N | 5.6 | 22 | -27 | -33.5 | 5.1 | 7 | | |
| CD-1867P | 5.6 | 22 | 33.5 | — | 14.1 | — | C-2 | 20-SD-01Z |
| CD-1868N | 7.8 | 150 | -31 | -40 | 27 | 10.2 | | |
| CD-1868P | 7.8 | 150 | 40 | — | 39.2 | — | C-4 | 402-SD-04Z |

* Refer to page 175.



TDK DC to DC Converters, DC to AC Inverters

For fluorescent display panels

40E D ■ 8821248 0005013 1 ■ TDKA

T D K CORP

T-57-29

Applications: Data terminals and others (alphanumeric)

For NEC fluorescent display

| TDK converter Part No. | Output characteristics | | | | | | Shapes and dimensions* | Suitable display type NEC No. |
|------------------------|------------------------|----------------|----------------------|----------------------|----------------------------|----------------------------|------------------------|-------------------------------|
| | Ef r.m.s. (V) | If (mAac) typ. | V ₁ (Vdc) | V ₂ (Vdc) | I ₁ (mAac) max. | I ₂ (mAac) max. | | |
| CD-1681N | 3.0 | 22 | -24 | -27.5 | 6.8 | 3.6 | C-1 | FIP8A5R |
| CD-1681P | 3.0 | 22 | 27.5 | — | 12.4 | — | C-2 | |
| CD-1682N | 3.9 | 16.5 | -26 | -32 | 6.8 | 4.2 | C-1 | FIP10A6R |
| CD-1682P | 3.9 | 16.5 | 32 | — | 13.0 | — | C-2 | |
| CD-1683N | 5.5 | 16.5 | -24 | -31 | 7.5 | 4.1 | C-2 | FIP16A5R |
| CD-1683P | 5.5 | 16.5 | 31 | — | 13.6 | — | | |
| CD-1684N | 7.8 | 120 | -40 | -51 | 27.6 | 6.7 | C-4 | FIP16A13R |
| CD-1684P | 7.8 | 120 | 51 | — | 36.3 | — | | |
| CD-1685N | 8.7 | 120 | -45 | -56 | 21.8 | 7.3 | C-4 | FIP18A14R |
| CD-1685P | 8.7 | 120 | 56 | — | 31.1 | — | | |

* Refer to page 175.

For ISE fluorescent display

| TDK converter Part No. | Output characteristics | | | | | | Shapes and dimensions* | Suitable display type ISE No. |
|------------------------|------------------------|----------------|----------------------|----------------------|----------------------------|----------------------------|------------------------|-------------------------------|
| | Ef r.m.s. (V) | If (mAac) typ. | V ₁ (Vdc) | V ₂ (Vdc) | I ₁ (mAac) max. | I ₂ (mAac) max. | | |
| CD-1781N | 3.3 | 12 | -24 | -28 | 2.2 | 3.6 | C-1 | FG85E2 |
| CD-1781P | 3.3 | 12 | 28 | — | 7.8 | — | C-1 | |
| CD-1782N | 4.7 | 37 | -26 | -31 | 12 | 4.0 | C-2 | FG108M1 |
| CD-1782P | 4.7 | 37 | 31 | — | 18 | — | C-3 | |
| CD-1783N | 6.4 | 120 | -35 | -43 | 24 | 5.6 | C-4 | FG209M2 |
| CD-1783P | 6.4 | 120 | 43 | — | 31.6 | — | | |
| CD-1784N | 6.8 | 80 | -45 | -53 | 12 | 6.9 | C-3 | FG326A2 |
| CD-1784P | 6.8 | 80 | 53 | — | 20.9 | — | C-4 | |

* Refer to page 175.

For FUTABA fluorescent display

| TDK converter Part No. | Output characteristics | | | | | | Shapes and dimensions* | Suitable display type FUTABA No. |
|------------------------|------------------------|----------------|----------------------|----------------------|----------------------------|----------------------------|------------------------|----------------------------------|
| | Ef r.m.s. (V) | If (mAac) typ. | V ₁ (Vdc) | V ₂ (Vdc) | I ₁ (mAac) max. | I ₂ (mAac) max. | | |
| CD-1881N | 5.8 | 17.5 | -24 | -31 | 5.4 | 4 | C-1 | 16-SY-03Z |
| CD-1881P | 5.8 | 17.5 | 31 | — | 11.4 | — | C-2 | |
| CD-1882N | 4.7 | 50 | -30 | -37 | 10 | 4.8 | C-3 | 20-SY-03ZL |
| CD-1882P | 4.7 | 50 | 37 | — | 14.9 | — | | |
| CD-1883N | 7.5 | 50 | -35 | -46 | 9.4 | 6 | C-3 | 32-SY-03ZL |
| CD-1883P | 7.5 | 50 | 46 | — | 17.4 | — | | |
| CD-1884N | 7.2 | 75 | -47 | -58 | 20.4 | 7.5 | C-4 | 16-LY-01ZL |
| CD-1884P | 7.2 | 75 | 58 | — | 29.9 | — | | |
| CD-1885N | 6.2 | 75 | -31 | -39.5 | 18 | 5.1 | C-3 | 16-MY-01ZL |
| CD-1885P | 6.2 | 75 | 39.5 | — | 25.1 | — | | |

* Input voltage (V_{in}): +5 Vdc ± 10%

* Filament voltage is set to nominal value at V_{in} of +5.0V

* Correspondence with display panel specification table

N type-V₁: Voltage applied to grid and anode

V₂: Sum of voltage applied to grid, anode and cutoff voltage

P type-V₁: Sum of voltage applied to grid, anode and cutoff voltage

* Refer to page 175.

TDK DC to DC Converters, DC to AC Inverters

For fluorescent display panels

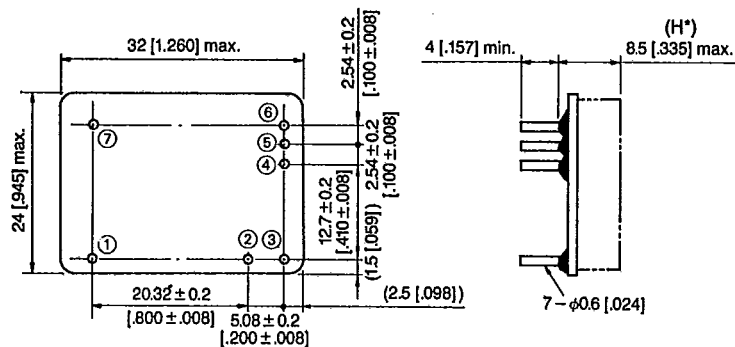
T D K CORP

40E D ■ 8821248 0005014 3 ■ TDKA

SHAPES AND DIMENSIONS

T-57-29

C-1



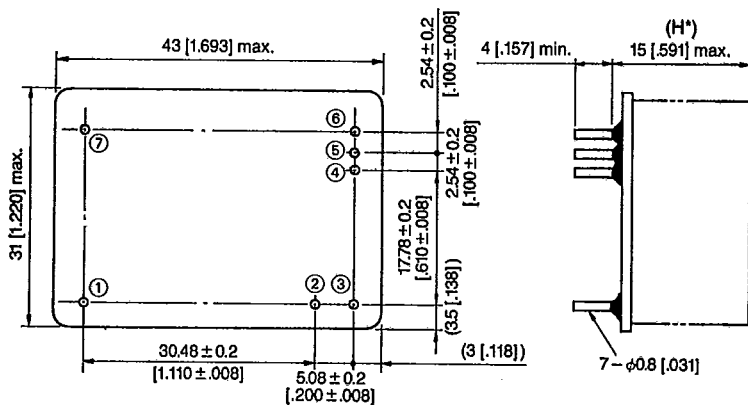
Output: 0.4W (400mW) max.
Weight: 4g

C-2

All dimensions are same as C-1, except (H*) changes to 10mm [.394 inches] max.

Output: 0.8W (800mW) max.
Weight: 6g

C-3



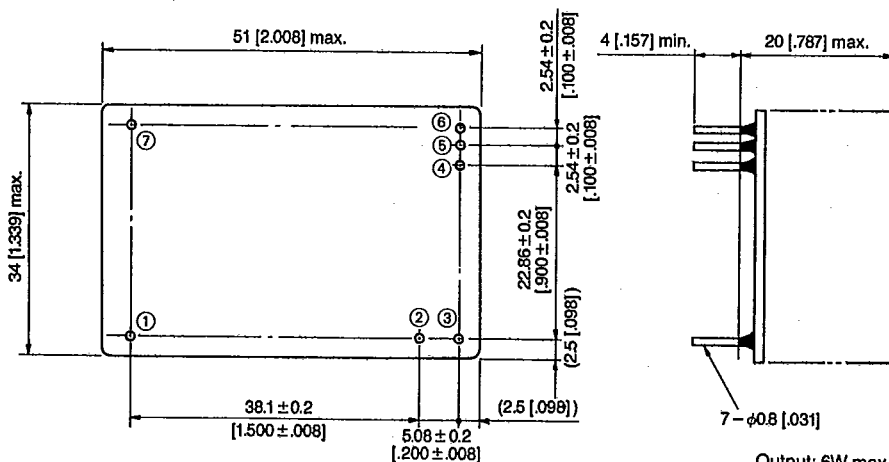
Output: 1.5W max.
Weight: 8g

C-4

All dimensions are same as C-3, except (H*) changes to 18mm [.709 inches] max.

Output: 3W max.
Weight: 16g

C-5



Output: 6W max.
Weight: 25g

Dimensions in mm [inches]