File E322515

Project 4789076156

November 26, 2019

REPORT

on

POWER CIRCUIT AND MOTOR-MOUNTED APPARATUS

Nipron Co., Ltd.
Hyogo, Japan

DESCRIPTION

PRODUCT COVERED:

  **USL, CNL -   Power Supply, Models UDD-240-HV/A24V-E00, may be followed
                 by -B.**

  **USL -   Power Supply, Models UDD-240-HV/A24V-E0X, may be followed
                 by -B.**

  USL, CNL -   Power Supply, Models UDP-240-A24-, followed by E00 or T00,
                may be followed by any alphanumeric, may be followed by -B.

  USL -   Power Supply, Models UDP-240-A24-, followed by E0D or T0D,
                may be followed by any alphanumeric, may be followed by -B.

GENERAL:

*   These devices are open-type switching type power supplies, employing an
isolated switching transformer involving a regulating network and a related
circuitry. The output is considered as an isolated **secondary** power supply
circuit.
      These power supplies are intended for use in a controlled environment
of a pollution degree 2.

RATING:

Electrical:

Model	Power Input	Power Output
UDD-240 series	**135 - 310 Vdc, 1.92 A**	**24 Vdc, 10 A $**
*UDP-240 series	100 - 240 Vac, 60 Hz, 2.6 A	24 Vdc, 10 A $

Environmental:

      Max. ambient temperature: 70°C $

Note:
$ - The derating curve explaining the characteristics between the permissible
load and the surrounding air temperature shown in ILLs. 1 thru 3 is the part
of the Power Output rating.

NOMENCLATURE

For UDD-240 series:

```
e.g.  UDD   -   240   -   HV  /  A  24V   -   E   0   0   -B
      ----      ----      --     --  ----      --  --  --  ---
       a         b        c      d   e         f   g   h    i
```

            a - Series Name
                 UDD: High efficiency DIN rail compatible series - DC
                           input;

            b - Continuous Output Power
                 240:      240 W;

            c - Type of Input voltage
                 HV: High voltage;

            d - Lightning surge enhancement
                 A: With arrester;

            e - Power Output Voltage
                 24V: 24 Vdc;

            f - Input/ Output Terminal Type
                 E: European terminal block;

            g - Backup function
                 0:        Without backup function;

            h - Life Notification Function
                 0:        Without life notification function,
                 X: With life notification function;

            i - DIN rail bracket
                 blank: Without DIN rail bracket,
                 -B: With DIN rail bracket.

NOMENCLATURE

For UDP-240 series:

```
e.g.   UDP    -    240    -    A    24    -    E    0    0    A    -B
       ----        ----        --   ---        --   --   --   --   ---
        a           b          c     d         e    f    g    h    i
```

        a - Series Name
             UDP: High efficiency DIN rail compatible series;

        b - Continuous Output Power
             240:     240 W;

        c - Lightning surge enhancement
             A: With arrester;

        d - Power Output Voltage
             24:      24 Vdc;

        e - Input/ Output Terminal Type
             E: European terminal block,
             T: Screw terminal block;

        f - Backup function
             0:       Without backup function;

        g - Life Notification Function
             0:       Without life notification function,
             D: With life notification function;

        h - Modification
             Any alphanumeric: Modification code shows the minor
             modification such as vibration reinforcement to component
             parts;

        i - DIN rail bracket
             blank: Without DIN rail bracket,
             -B: With DIN rail bracket.

TECHNICAL CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

*   Products designated USL **indicates United States Standards – Listed,**
have been investigated using **United States** requirements **as noted in the Test
Record.**
*   Products designated CNL **indicates Canadian National Standards – Listed,**
have been investigated using requirements **as noted in the Test Record.**

CONSTRUCTION DETAILS:

        The device shall be constructed in accordance with the following
description.

        Corrosion Protection – All parts are of corrosion resistant material or
are suitably plated, painted or otherwise protected against corrosion.

        Tolerances – Unless specified otherwise, all dimensions are nominal.

*   Spacings – Spacings were evaluated **using requirements as noted in the
Test Record**.

        Printed Wiring Board - Unless otherwise specified, all printed wiring
boards shall be R/C (ZPMV2/8), rated min. V-1 with a temperature rating of
105°C minimum.

        Summary of Figures and Illustrations – The following figures and
illustrations are included in this Report.

FIG or ILL. No.	Description
FIG. 1	Models UDP-240-A24-T0D and UDP-240-A24-E0D overall and sides view
FIG. 2	Models UDP-240-A24-T0D and UDP-240-A24-E0D bottom sides view
FIG. 3	Model UDP-240-A24-E0D inside view
ILL. 1	Derating curve in Mounting orientation A
ILL. 2	Derating curve in Mounting orientation B
ILL. 3	Derating curve in Mounting orientation C
ILL. 4	Transformer T1, construction details
ILL. 5	Heatsink for D1, Q101, Q102
ILL. 6	Insulation Sheet located at between Case and Main PWB
*ILL. 7	Insulation Sheet located at **around** LF1, ZNR1 and ZNR2
ILL. 8	Insulation Sheet located at C17
ILL. 9	Insulation Sheet located at beneath Life detector PWB

        Markings - The following markings ink printed, silk-screened, leaser
engraved or ink stamped or printed on a label in R/C (PGDQ2/8) or
R/C (PGJI2/8) shall be appeared on the device and is visible when the device
is mounted singularly but not necessarily visible when mounted side by side:

    1.   Listee's name;
    2.   Catalog number;
    3.   Electrical ratings;
   *4.   "See **instruction** manual for derating curve **related to** surrounding
          air temperature **versus output power. See instruction manual for
          wire size, torque values, environmental condition and other
          information.**";
    5.   Maximum surrounding air temperature rating;
   ***6.** The month and year of manufacture, may be composed in date coding,
          serial numbers or equivalent;
    **7.   For models in UDD-24 series, "WARNING: PLEASE USE WIRING RATED
          FOR AT LEAST 90°C".**

The following markings shall be shipped separately with the device.

    1.   Temperature rating of the field installed conductors;
    2.   For models with suffix T in Input, Output Terminals designation,
          Tightening torque in pound-inches for terminals, 5.31 in-lbs;
    **3.   The Load factor versus surrounding air temperature derating curve
          explains the characteristics between the permissible load factor
          and the surrounding air temperature as the part of the power
          output rating.**