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    File E52653
    Project 4788421040
    May 10, 2018
        REPORT
        on
COMPONENT - CONNECTORS FOR USE IN DATA, SIGNAL, CONTROL AND POWER
    APPLICATIONS
    Hirose Electric Co., Ltd.
        Tokyo, Japan
```

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    and Report Revised: 2018-11-21
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## DESCRIPTION

PRODUCT COVERED:

USR, CNR Component Connector, Series MQ221:

Cat. Nos. MQ221, followed by $-5 P / 10 \mathrm{P}$ or $-5 \mathrm{~S} / 10 \mathrm{~S}$, may be followed by (01) to (99).

## GENERAL:

These devices are multi-pole connectors intended for factory assembly on copper wire sizes as indicated in Ratings table below where the acceptability of combinations is determined by UL LLC. The devices are identified as follows:

USR indicates investigation to United States Standards, UL 1977.

CNR indicates investigation to Canadian National Standards, C22.2 No. 182.3.

RATINGS:


Disconnecting Use - see Sec Gen for required marking

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NOMENCLATURE: The Series MQ221 are designated as follows:
Example: Cat. No. MQ221-5P/10P(01)

| $\mathrm{MQ221}$ | -5 | P | $/ 10$ | P | $(01)$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| I | II | III | IV | V | VI |

I - Basic Construction:
MQ221: Series MQ221
II - Number of power contact:
5: 5 poles
III - Connector Style:
P: Plug
S: Receptacle

IV - Number of signal contact: /10: 10 poles

V - Connector Style (Signal):
P: Plug
S: Receptacle
VI - Customer specification: (01) to (99) or blank: Indicate packing differences or Insulator material color variation.

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TECHNICAL CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):
Use - For use only in or with complete equipment where the acceptability of the combination is determined by UL LLC.

Conditions of Acceptability - The following are among the considerations to be made when evaluating the device in the end-use product.

Interruption of Current

1. These devices are not suitable for interrupting the flow of current by connecting or disconnecting the mating connector.

Current-Carrying Capability and Current Ratings
2. These devices have been subjected to the Temperature test with the rated currents and maximum temperature rise and recorded temperature (adjusted to $25^{\circ} \mathrm{C}$ ambient) values tabulated below for the specific circuits indicated below, when all poles are loaded simultaneously:

| Connector Cat Nos. (Plug/Rece) | Circuit | Contact, Part No. (Plug/Rece) | $\begin{gathered} \text { Current, } \\ \text { A } \end{gathered}$ | WireSize,AWG(CU/STR) | Maximum <br> Temperature ${ }^{\circ} \mathrm{C}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Rise | Recorded Temperature |
| $\begin{gathered} \text { MQ221-5P/10P } \\ \text { mating with } \\ \text { MQ221-5S/10S } \\ \text { and mating } \\ \text { signal } \\ \text { connectors, } \\ \text { HIF3MAW-10D- } \\ 2.54 R \end{gathered}$ | Power | $\begin{aligned} & \text { EM52M-PC2-132 } \\ & / \text { EV1-SC2-132 } \end{aligned}$ | 100 | 2 | 25.5 | 50.5 |
|  | Signal | - | 1 | 28 | 21.6 | 46.6 |
|  | Power | $\begin{aligned} & \text { EM52M-PC-112 } \\ & \text { / EV1-SC2-112 } \end{aligned}$ | 80 for CNR | 4 | 26.3 | 51.3 |
|  | Signal | - | 1 | 28 | 20.1 | 45.1 |
|  | Power | $\begin{aligned} & \text { EM52M-PC-112 } \\ & / \text { EV1-SC2-112 } \end{aligned}$ | 125 for USR | 4 | 75.7 | 100.7 |
|  | Signal | - | 1 | 28 | 41.2 | 66.2 |
|  | Power | $\begin{gathered} \text { EM52M-PC-142 / } \\ \text { EV1-SC2-142 } \end{gathered}$ | 45 | 8 | 20.5 | 45.5 |
|  | Signal | - | 1 | 28 | 16.0 | 41.0 |
|  | Power | $\begin{gathered} \text { EM52M-PC-112 / } \\ \text { EV1-SC2-142 } \end{gathered}$ | 45 | $\begin{gathered} 4 / \\ 8 \end{gathered}$ | 13.7 | 38.7 |
|  | Signal | - | 1 | 28 | 8.3 | 33.3 |

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