**Traffic Controller Accessories**

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Approved/Issued by: Jeff Morgan, Product Certification Manager

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| REV. | DATE | DESCRIPTION | AUTHORED BY | REV MORE STRINGENT? |
| --- | --- | --- | --- | --- |
| 1.0 | 10/10/2017 | CM created | Rod Brooks | N/A |
| 2.0 | 9/11/2018 | Power Switch and GPS specs entered to reflect changes to FA 8/6/18.  | Rod Brooks | N/A |
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|  | FDOT Traffic Engineering Research Laboratory (TERL) Traffic Controller Accessories Compliance Matrix | By signing this form, the applicant declares that he/she has read and understands the provisions of Section 678 of the FDOT *Standard Specifications for Road and Bridge Construction* and all implemented modifications. The requirements listed on this matrix are derived from Section 678, and are the basis for determining a product’s compliance and its acceptability for use on Florida’s roads. |

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| --- | --- | --- | --- |
| Date: | Click here to enter a date. | Applicant’s Name (print): |  |
| Manufacturer: |       |  |       |
| Item, Model No.: |       | Signature: |       |

| **ID No** | **Section** | **Requirement** | **Item Comply? (Yes/No)** | **Comments(Applicant must provide information as indicated)** | **TERL Evaluation Method** |
| --- | --- | --- | --- | --- | --- |
| 1 | 678-1 | Traffic controller accessories meet the requirements of Section 603.  |  | *Provide a statement of conformance in this field.* | Compliance Matrix Review |
| 2 | 678-2 | Ensure that all traffic controller accessories are permanently marked with manufacturer’s name or trademark, model or part number, and serial number.  |  | *Applicant may provide comments in this field.* | Physical Inspection |
| The following compliance matrix criteria are for NEMA TS1 Conflict Voltage Monitors  |
| 3 |  | The Conflict Voltage Monitor meets the requirements of NEMA TS1-1989, Section 6.  |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| The following compliance matrix criteria are for NEMA TS2 Malfunction Management Units |
| 4 |  | The MMU meets the requirements of NEMA TS2 2016, Section 4. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| The following compliance matrix criteria are for NEMA TS2 Power Switches  |
|  5 |  | The power switch meets the requirement of NEMA TS2-2016, Section 5.3.5 |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| The following compliance matrix criteria are for Load Switches  |
| 6 |  | The load switch meets the requirements of NEMA TS2 2016, Section 6.2. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| The following compliance matrix criteria are for Flashers  |
| 7 |  | The Flasher meets the requirements of NEMA TS2 2016, Section 6.3.  |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| The following compliance matrix criteria are for Flash Transfer Relays |
| 8 |  | The Flash Transfer Relay meets the requirements of NEMA TS2 2016, Section 6.4. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| The following compliance matrix criteria are for Conflict Monitors (Model 210) |
| 9 |  | The CMU meets the requirements of CALTRANS TEES, 2009. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| The following compliance matrix criteria are for Power Supply Modules (Model 206) |
| 10 |  | The Power Supply Module meets the requirements of CALTRANS TEES, 2009. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| The following compliance matrix criteria are for Power Distribution Assemblies |
| 11 |  | The Power Distribution Assembly meets the requirements of CALTRANS TEES, 2009 6.4.3.  |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this*  | Document Review and Functional Inspection |
| The following compliance matric criteria are for Flash Transfer Relay (Model 430) |
| 12 |  | The Flash Transfer Relay meets the requirements of CALTRANS TEES, 2009 6.4.5.1.5. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| The following compliance matrix criteria are for Input Files |
| 13 |  | The input file meets the requirements of CALTRANS TEES, 2009 6.4.4. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement..* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| The following compliance matrix criteria are for Current Monitors (Model 208) |
| 14 |  | The Current Monitor meets the requirements of CALTRANS TEES, 2009 3.7.2.  |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| The following compliance matrix criteria are for all traffic controller accessories  |
| 15 |  | Traffic controller accessories can perform all specified functions during and after being subjected to the environmental testing procedures described in NEMA TS2, Sections 2.2.7, 2.2.8, and 2.2.9.  |  | *Provide a third party test report that demonstrates the device performs all required functions during and after being subjected to the environmental testing as described in NEMA TS2 section 2.2.7, 2.2.8, and 2.2.9. The test report must meet the requirements of FDOT Product Certification Handbook, section 7.2.* | Document Review  |
| *Indicate location of requested information in submittal.* |
| The following compliance matrix criteria are Time Switches  |
| 16 | 678-2.1.1 | The time switch is a 24-hour timer which controls the daily switching operation of circuit contacts at preselected times.  |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review |
| *Indicate location of requested information in submittal.* |
| 17 |  | Type 1 time switch contains a single circuit contact and a solid state timer with at least 48 programmable on and off times.  |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| 18 |  | Type 2 time switch contains two circuit contact and a solid state timer with at least 48 programmable on and off times per circuit.  |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| 19 |  | Type3 time switch contains three circuit contacts and a solid state timer with at least three independently programmable on and off times per circuit.  |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| 20 | 678-2.1 | Solid state timing is accomplished by digital circuits utilizing the power line 60 Hz frequency as the normal timing reference or GPS Time Sync.  |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review |
| *Indicate location of requested information in submittal.* |
| 21 |  | Time-of-day is settable and displayed in maximum increments of one minute.  |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| 22 | 678-2.1.2 | Programming for selection of contact openings or closures is provided in maximum increments of one minute for Type 1 through 3 time switches.  |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| 23 |  | A day omit device or circuit is provided with Types 1 through 3 time switches to omit the programmed switching operation for and combination of up to three days of the week.  |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| 24 |  | A positive means of indicating the day of the week must be provided with Types 1 through 3 time switches.  |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| 25 | 678-2.1.3 | Type 1, Type 2, and Type 3 solid state time switches are provided with a battery backup circuit which maintains time during a power failure of up to 10 hours.  |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| 26 |  | The timing accuracy of battery backup circuits during a power failure is plus or minus 5 minutes.  |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| 27 | 678-2.1.4 | Each output circuit contact must be rated or a 3A, 115 VAC load. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review |
| *Indicate location of requested information in submittal.* |
| 28 |  | The output circuit contact must have 115 VAC present when the timer turns the circuit on.  |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review |
| *Indicate location of requested information in submittal.* |
| 29 | 678-2.1.5 | Time switch is enclosed in durable sheet aluminum or approved alternate housing.  |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Physical Inspection |
| *Indicate location of requested information in submittal.* |
| 30 |  | A terminal strip or screws is provided with the time switch for AC power and all output circuit contacts.  |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Physical Inspection |
| *Indicate location of requested information in submittal.* |