

ENGINEERING AND OPERATIONS

NORTHERN AIRPORTS

SPECIFICATION FOR CONSTANT

CURRENT REGULATOR

FOR USE IN MEDIUM INTENSITY AIRFIELD

LIGHTING SYSTEMS



**TRANSPORTATION AND GOVERNMENT SERVICES
NORTHERN AIRPORTS**

**SPECIFICATIONS FOR CONSTANT
CURRENT REGULATORS**

1. SCOPE

This specification defines the general requirements applicable to constant current regulators. The intent of this specification is to establish minimum acceptable electrical, mechanical, design and performance requirements, which all constant current regulators must meet to ensure satisfactory and reliable operation. It is not intended to impose restrictions upon design or materials, which must conform to the FAA or Transport Canada TP 312 Technical standard. All FAA and Transport Canada TP 312 standards, current FAA and Transport Canada TP 312 specifications at time of contract, not specifically mentioned in this specification will apply. Where there is a conflict between this specification and the latest FAA and Transport Canada TP 312 standard, this specification will apply.

2. REQUIREMENTS

2.01 Regulators must be solid state thyristor type in a free-standing, CSA Type 1 enclosure.

2.02 The regulators must have the following electrical characteristics:

• Voltage (rated)	240 V \pm 10%, single phase
• Frequency (rated)	60 Hz
• Efficiency	98%
• Power Output	Minimum regulator size 4 Kw
• Current	Constant current - 6.6 amps
• Illumination Intensity Levels	Minimum 3 selectable levels, each adjustable in the field

2.03 The illumination intensity levels must be set by the manufacturer as follows:

B1 4.8A \pm 0.1A 10% brightness
B2 5.5A \pm 0.1A 30% brightness
B3 6.6A \pm 0.1A 100% brightness

2.04 Accuracy of output current:

- \pm 1% for \pm 10% of input voltage variations.
- \pm 1% for \pm 10% of frequency fluctuations.

2.05 Environmental operating conditions:

- -40°C to +55°C
- Relative humidity up to 100%.

2.06 Protection

- Overcurrent (manufacturer's recommendation)
- Overvoltage (manufacturer's recommendation)
- Auto lockout
- Fault Protection
- Lightning and voltage surge protection

2.07 Local Control

- ON/OFF selector switch
- Local/remote control switch
- Illumination intensity level selector switch
- Illumination intensity level indicator

2.08 Remote Control

- ON/OFF selection
- Illumination intensity selection

2.09 The regulator must be equipped with an in-service hour meter. The hour meter must indicate the duration that the regulator is "ON" and in use.

2.10 Control wiring must be brought to terminal blocks for connection of remote cables. Each block must be clearly labeled with an identification number for its respective designed function and appropriate voltage.

3. WARRANTY

3.01 All units must be guaranteed against failure for one year from date of acceptance By the Traffic Engineering Branch of the Department of Transportation and Government Services.

4. INSPECTION AND ACCEPTANCE

4.01 The vendor must supply one evaluation sample unit of each type being supplied along with all testing and technical documentation.

Constant Current Regulators that conform to this specification and are not currently in use by this Department must be submitted to the Traffic Signal Workshop for a one-year evaluation period by Department personnel. At the end of the evaluation period the supplier will be advised by the Traffic Operations Engineer if the equipment submitted for evaluation is acceptable.

The total cost of supplying this equipment for evaluation must be borne by the supplier. The bidder must complete the attached "Specification Compliance Summary" (attached). Failure to complete the summary will result in disqualification from the bidding.

- 4.02 All shipments of constant current regulators must be delivered to the Mechanical Equipment Warehouse facility at 1550 Dublin Avenue, Winnipeg, Manitoba. At that time they will be inspected by the Traffic Engineering Branch of the Department of Transportation and Government Services.

Acceptance will be based on the supplied equipment meeting the requirements of this specification.

- 4.03 For additional technical information please contact Mark Seniuk at (204) 945-7335 office, or (204) 799-8682 cellular.