ENGINEERING SPECIFICATION

SYMCOM MODEL RS485MS-2W MODBUS-RTU COMMUNICATIONS MODULE FOR SYMCOM 777 SERIES* PRODUCTS

PART 1 GENERAL

1.1 REFERENCES

A. UL 508 Industrial Control Equipment – Underwriters Laboratories
B. IEC 60947 Low Voltage Switchgear and Controlgear – International Electrotechnical Commission
C. CSA C22.2 No. 14 Industrial Control Equipment – Canadian Standards Association
D. ANSI/IEEE C62.41 – American National Standards Institute/Institute of Electrical & Electronics Engineers

1.2 WARRANTY

A. Manufacturer Warranty: The manufacturer shall guarantee the equipment to be free from defects in material and workmanship for a period of five years from the date of manufacture when installed and operated according to the manufacturer's requirements.

PART 2 EQUIPMENTS

2.1 MANUFACTURERS

The equipment specified shall be the RS485MS-2W, manufactured by SymCom, Inc.

2.2 DESCRIPTION

A. Regulatory Requirements:
   1. The equipment shall be UL Listed as type NKCR—Industrial Control Equipment-Motor Controllers-Auxiliary Devices.
   2. The equipment shall be ULC Listed as type NKCR7—Industrial Control Equipment-Motor Controllers-Auxiliary Devices Certified for Canada.
   3. The equipment shall be CE marked for use in the European Union and evaluated against IEC 60947 Low Voltage Switchgear and Controlgear.
   4. The equipment shall be CSA certified as class 3211-03—Industrial Control Equipment-Motor Controllers-Auxiliary Devices.

2.3 PERFORMANCE/DESIGN CRITERIA: MODBUS-RTU COMMUNICATIONS MODULE

A. Specific Functional Requirements
   1. The equipment shall provide a hardware interface between a 777-Series product and a Modbus-RTU network.

B. Input/Output Requirements
   1. The equipment shall include one 9-pin D-Sub connector for connection to 777 Series.
   2. The equipment shall provide a remote reset input that provides the ability to reset an attached 777 Series.
   3. The equipment shall include one 2-wire RS-485 connection.
   4. The equipment shall provide a power source for SymCom Model RM-1000.

C. Network Requirements
   1. The equipment shall convert 777 Series communication signals from 5V to RS-485.
   2. The equipment shall convert RS-485 signals to 0-5V signals compatible with the 777 Series.
   3. The equipment shall galvanically isolate the communications network from voltages present in the 777 Series.

D. Electromagnetic Compatibility
   1. The equipment shall be immune to electrostatic discharge per IEC 61000-4-2, Level 3, 6kV contact discharge and 8kV air discharge.
   2. The equipment shall be immune to electrical fast transient bursts exceeding IEC 61000-4-4, Level 3, 4kV input power.
   4. The equipment's input power shall be immune to electrical surges per IEC 61000-4-5, Level 1.
   5. The equipment's RS-485/input lines shall be immune to electrical surges per IEC 61000-4-5, Level 2. Specified limits shall be 1kV line-to-line and line-to-ground.
   6. The equipment shall be immune to radiated radio frequency emissions per IEC 61000-4-6, Level 3. Specified limits shall be 10 V/m at 150 MHz.

E. Enclosure Class of Protection: The equipment shall provide IP20 (finger safe) protection.

F. Environmental Requirements
   1. The equipment shall operate continuously without de-rating in ambient temperatures of -20° to 50°C (-4° to 158°F).
   2. The equipment shall operate continuously without de-rating in relative humidity of up to 95% non-condensing.
   3. The equipment shall operate properly after storage in ambient temperatures of -40° to 80°C (-40° to 176°F).

*777 Series as used in this document refers to all Model 777, Model 601, and Model 77C Series products.

G. Dimensions:
   1. The equipment dimensions shall not exceed 2.10” high X 2.90” wide X 0.79” deep.

H. Mounting:
   1. The equipment shall be mountable to the 9-pin D-Sub connector on the side of a 777 Series.

End of Section

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