Project Documentation | TMCTC-000000 Cabinet Termination Card

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NEMA Cabinet Termination and Power Supply for UMRR Traffic Management Sensors

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1   Data Sheet

The Traffic Management Cabinet Termination Card (TMCTC) is a NEMA TS1/2 compatible small circuit card mounted inside the controller cabinet providing the termination point for the home run cable from the UMRR sensor (RS485 data and power).

The home run cable (CABLE-080000) is terminated with a high quality "pluggable terminal block connector" which is plugged onto the TMCTC and a D-Sub-9 socket to connect a PC for UMRR configuration. The TMCTC also provides electrical protocol conversion (RS-422/485 to RS-232) to facilitate connection to an RS-232 port of the cabinet controller, serial connection, or the RS-232 port of the Traffic Management Relay Interface Card (TMRIC). The TMCTC provides a single stage (solid state) and an additional stage (gas tube) of surge protection for all data and power lines.

1.1   Features

- Designed for Type 170/TS1/2 card files
- RS-485 to RS-232 Conversion of UMRR signals
- Solid State Surge on all Data and Power Lines
- Gas tube surge on all data and power lines
- 9 Position "pluggable" terminal block for UMRR Home Run cable
- RJ-45 RS-232 Connection for connection to TMRIC
- Fused Power input
- Shock NEMA TS2-2.1.10, Vibration NEMA TS2-2.1.9
- Operating Temperature -20 °C to 75 °C
- Dimensions: 4 1/2" x 7 3/8" x 15/16"

1.2   Applications

- Loop Replacement with UMRR radar sensor

1.3 System Setup

The components of a Nema TS2 Cabinet System are:
- Traffic Management Radar Sensor (UMRR)
- Data/Power Cable from/to UMRR (CABLE-080000)
- Traffic Management Cabinet Termination Card (TMCTC)
- Serial Cable (straight thru Cat 5E / RJ-45 connector on both ends)
- Traffic Management Relay Interface Card (TMRIC)
- optional: PC with smartmicro TMC software to configure the UMRR
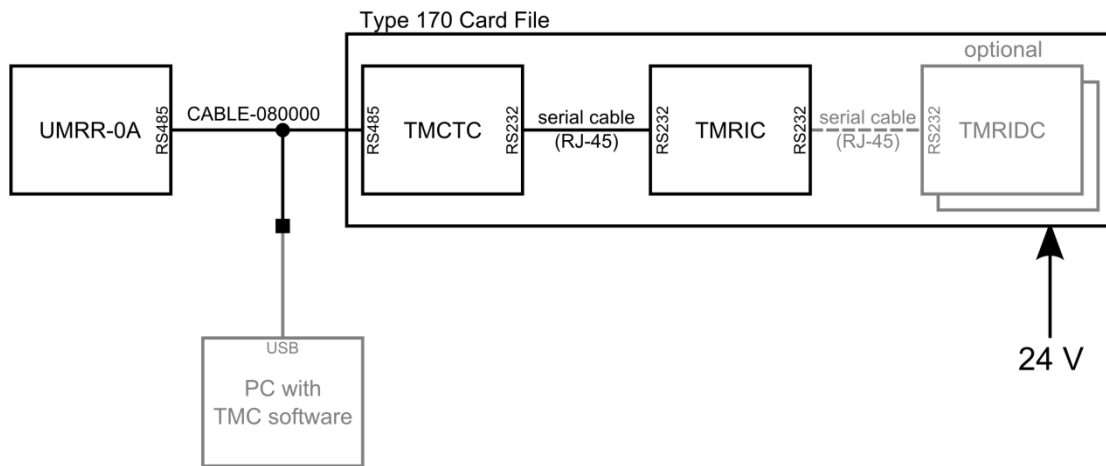- optional: Traffic Management Relay Interface Daughter Cards (TMRIDC)

Figure 1: Block Diagram of a Card File Installation

Only one radar sensor can be connected to one set of cabinet cards TMCTC + TMRIC (+ optional 2 TMRIDC).

For the connection of multiple radar sensors (up to 4) at one intersection, one TMRIC radar sensors can be assigned to ID0…ID3. The TMRIC is prepared to operate with any such IDs.

1.4 Sensor Connection Cable
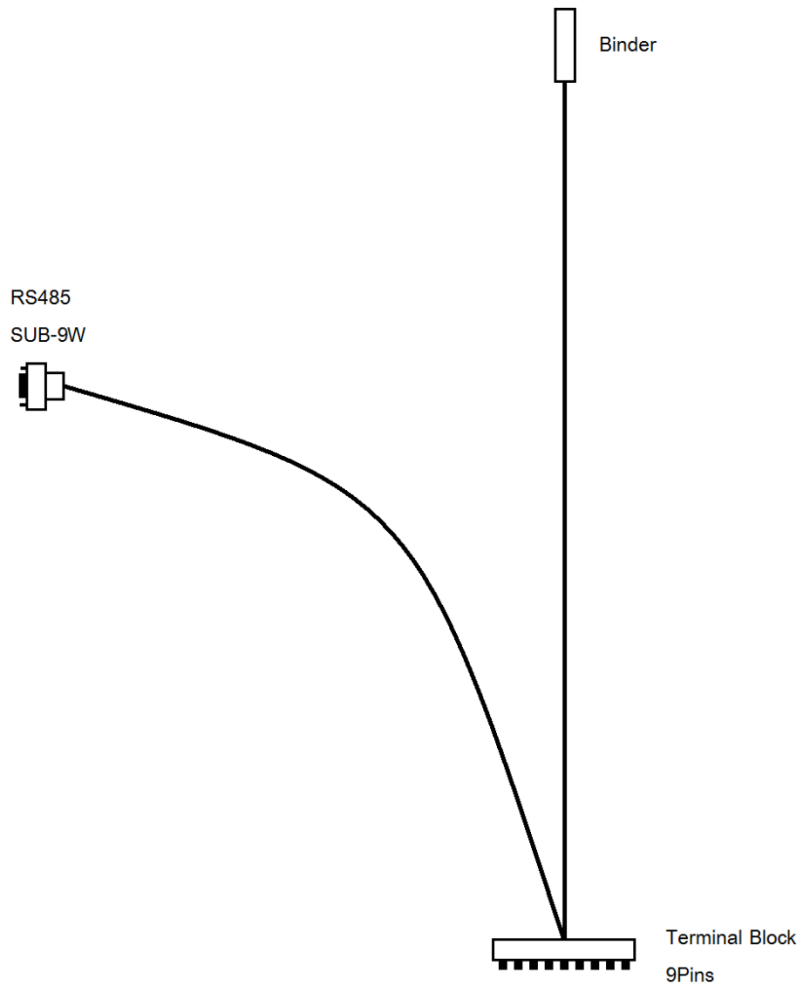
Figure 2: CABLE-080000

Table 1: Pinout of Terminal Block Connector

Pin No.	Name	Function
1	TXD+	RS485 Non-Inverted I/O Data
2	TXD-	RS485 Inverted I/O Data
3	n.c.	
4	n.c.	
5	GND	Ground/Shield
6	VDC	Output DC Power
7	GND	Ground
8	n.c.	
9	n.c.	

1.5 Device Photograph

Figure 3: TMCTC for Type 170/TS1/2 Card File

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