

**Part 1            General****1.1            RELATED SECTIONS**

- .1      Section 01 00 10 – General Instructions.
- .2      Section 25 01 11 - EMCS: Start-Up, Verification and Commissioning.
- .3      Section 25 05 01 - EMCS: General Requirements.
- .4      Section 25 05 54 - EMCS: Identification.
- .5      Section 25 10 01 - EMCS: Local Area Network (LAN).
- .6      Section 25 30 02 - EMCS: Field Control Devices
- .7      Section 26 05 00 – Common Work Results for Electrical
- .8      Section 26 05 20 - Wire and Box Connectors 0-1000 V.
- .9      Section 26 05 21 - Wire and Cables (0-1000 V)
- .10     Section 26 05 29 - Hangers and Supports for Electrical Systems
- .11     Section 26 05 32 - Outlet Boxes, Conduit Boxes and Fittings
- .12     Section 26 05 34- Conduits, Conduit Fastenings and Conduit Fittings

**1.2            REFERENCES**

- .1      American National Standards Institute (ANSI)
  - .1          ANSI/ASME B16.22-2001 (R2005), Wrought Copper and Copper Alloy Solder Joint Pressures Fittings.
- .2      Canadian Standards Association (CSA)
  - .1          CSA C22.1-12, Canadian Electrical Code, Part 1, 22<sup>nd</sup> Edition, Safety Standard for Electrical Installation. ESA OESC-2012, Ontario Electrical Safety Code, 25<sup>th</sup> Edition, Electrical Safety Authority 2012.

**Part 2            Products****2.1            WIRING**

- .1      All wiring for EMCS systems shall be installed in EMT conduit unless specified otherwise.
- .2      Sizes:
  - .1          120V Power supply: to match or exceed breaker, size #12 minimum.
  - .2          Field wiring to digital device: # 18 AWG to #20 AWG stranded twisted pair.
  - .3          Analog input and output: shielded # 18 minimum stranded twisted pair.
  - .4          All wiring must be continuous without joints

- .5 Network wiring: Refer to Section 25 10 01 - EMCS: Local Area Network (LAN).
- .3 Terminations:
  - .1 Terminate wires with screw terminal type connectors suitable for wire size, and number of terminations.
- .4 Do not run exposed conduits in normally occupied spaces unless otherwise indicated or unless impossible to do otherwise. Departmental Representative to review before starting work.

## **2.2 INSTALLATION**

- .1 Install equipment, components so that manufacturer's and CSA labels are visible and legible after commissioning is complete.
- .2 Fully enclose or properly guard electrical wiring, terminal blocks, high voltage above 70 V contacts and mark to prevent accidental injury.
- .3 Conform to manufacturer's recommendations for storage, handling and installation.
- .4 Check factory connections and joints. Tighten where necessary to ensure continuity.
- .5 Protect exposed live equipment such as panel, mains, outlet wiring during construction for personnel safety.
- .6 Shield and mark live parts "LIVE 120 VOLTS" or other appropriate voltage.
- .7 Holes through exterior wall and roofs: flash and make weatherproof.
- .8 Make necessary arrangements with Division 01 for cutting of chases, drilling holes and other structural work required to install electrical conduit, cable, pull boxes, outlet boxes.
- .9 Install cables, conduits and fittings which are to be embedded or plastered over, neatly and closely to building structure to minimize furring.

**END OF SECTION**