

SPECIFICATIONS (Cont'd)

7. ENVIRONMENTAL CONDITIONS:

- Operating Temperature Range:** 0 to 50°C. Derate max. operating temperature to 40°C above 26 VDC.
- Storage Temperature:** -40 to +75°C
- Operating and Storage Humidity:** 85% max.relative humidity (non-condensing) from 0 to 50°C
- Altitude:** Up to 2000 meters
- 8. CONSTRUCTION:** Case body is green, high impact plastic. Installation Category I, Pollution Degree 2.
- 9. MOUNTING:** Standard DIN rail top hat (T) profile rail according to EN50022- 35 X 7.5 and 35 X 15
- 10. WEIGHT:** 3.2 oz. (90.7 g)

EMC INSTALLATION GUIDELINES

Although this unit is designed with a high degree of immunity to ElectroMagnetic Interference (EMI), proper installation and wiring methods must be followed to ensure compatibility in each application. The type of electrical noise, source or coupling method into the unit may be different for various installations. In extremely high EMI environments, additional measures may be needed. Cable length, routing and shield termination are very important and can mean the difference between a successful or a troublesome installation. Listed below are some EMC guidelines for successful installation in an industrial environment.

1. DC power to the unit should be relatively clean and within the specified limits. Connecting power to the unit from circuits that power inductive loads that cycle on and off, such as contactors, relays, motors, etc., should be avoided. This will reduce the chance of noise spikes entering the DC power connection and affecting the unit.
2. The shield (screen) pigtail connection should be made as short as possible. The connection point for the shield depends somewhat upon the application. Listed below are the recommended methods of connecting the shield, in order of their effectiveness.
 - a. Connect the shield only at the unit to earth ground (protective earth).
 - b. Connect the shield to earth ground at both ends of the cable, usually when the noise source frequency is above 1 MHz.
 - c. Connect the shield to common of the unit and leave the other end of the shield unconnected and insulated from earth ground.
3. Never run Signal cables in the same conduit or raceway with AC power lines, conductors feeding motors, solenoids, SCR controls, and heaters, etc. The cables should be run in metal conduit that is properly grounded. This is especially useful in applications where cable runs are long and portable two-way radios are used in close proximity or if the installation is near a commercial radio transmitter.
4. Signal cables within an enclosure should be routed as far away as possible from contactors, control relays, transformers, and other noisy components.
5. In extremely high EMI environments, the use of external EMI suppression devices, such as ferrite suppression cores, is effective. Install them on Signal cables as close to the unit as possible. Loop the cable through the core several times or use multiple cores on each cable for additional protection.

Install line filters on the power input cable to the unit to suppress power line interference. Install them near the power entry point of the enclosure. The following EMI suppression devices (or equivalent) are recommended:

Ferrite Suppression Cores for signal cables:

Fair-Rite # 0443167251 (RLC #FCOR0000)

TDK # ZCAT3035-1330A

Steward #28B2029-0AO

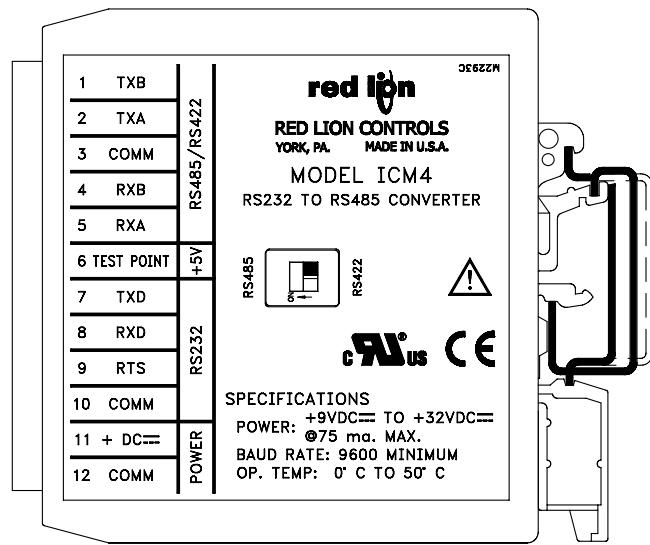
Line Filters for input power cables:

Schaffner # FN610-1/07 (RLC #LFIL0000)

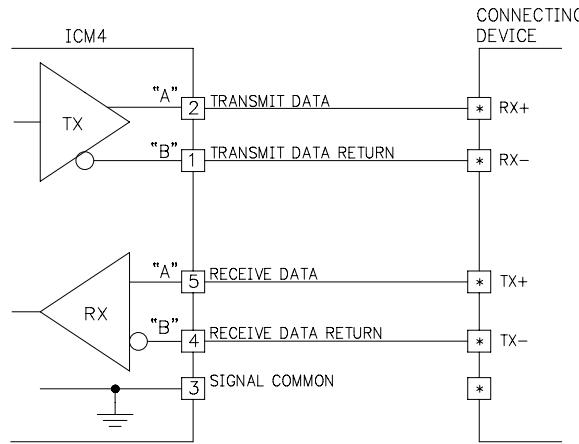
Schaffner # FN670-1.8/07

Corcom #1VR3

SIDE VIEW OF ICM4



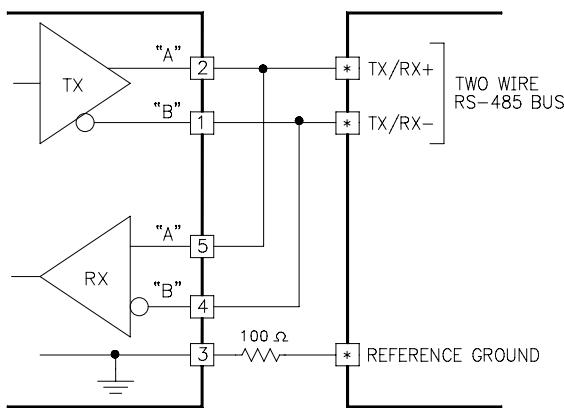
TYPICAL RS422 CONNECTIONS



Notes:

1. Connect shield drain wire to earth ground.
2. Place DIP switch on the side of the ICM4 in the 422 position.
3. RS422 polarity: Terminal "A" is negative with respect to Terminal "B" in the mark (logic 1) condition.

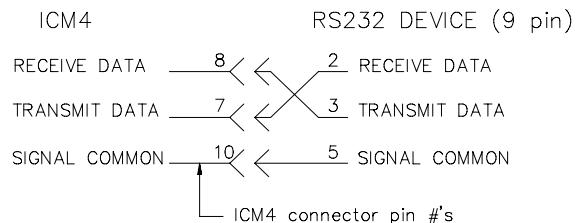
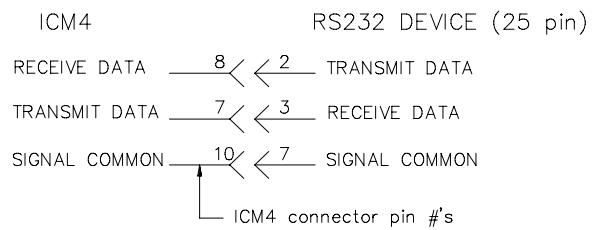
TYPICAL RS485 CONNECTIONS



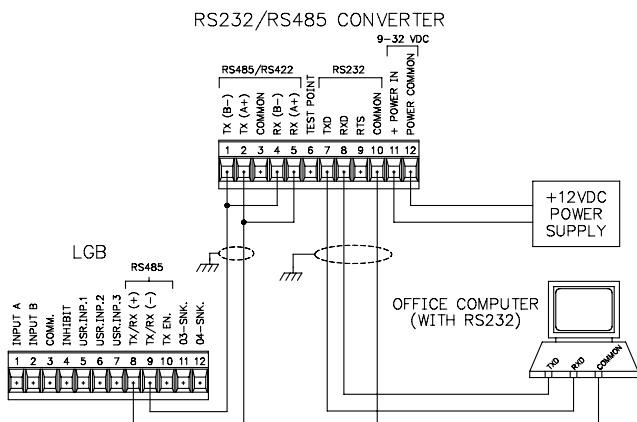
Notes:

1. Connect shield drain wire to earth ground.
2. Place DIP switch on the side of the ICM4 in the 485 position.
3. The transmit and receive data lines of the ICM4 should be wired together.

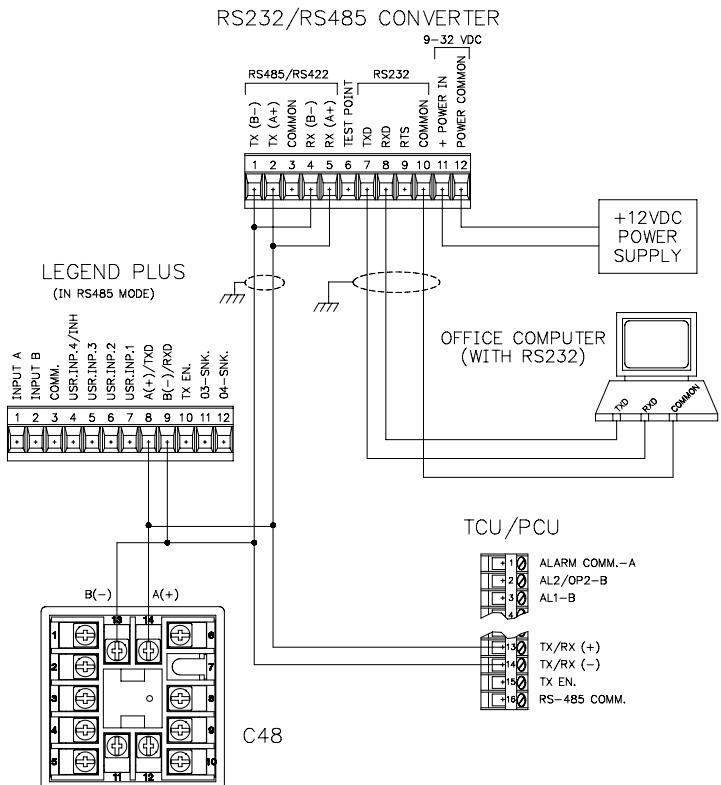
TYPICAL RS232 CONNECTIONS



TYPICAL CONNECTION FOR SINGLE UNIT



TYPICAL CONNECTION FOR MULTIPLE UNITS

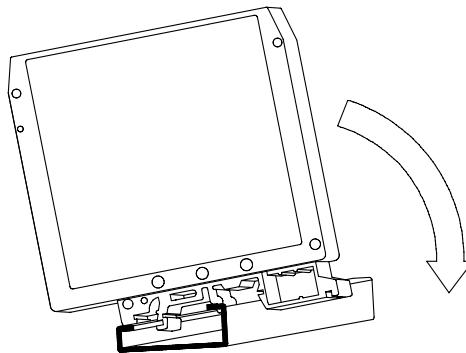


INSTALLATION

The unit is equipped with a universal mounting foot for attachment to standard DIN style mounting rails, including G profile rail according to EN50035 - G32, and top hat (T) profile rail according to EN50022 - 35 x 7.5 and 35 x 15. The unit should be installed in a location that does not exceed the maximum operating temperature and provides good air circulation. Placing the unit near devices that generate excessive heat should be avoided.

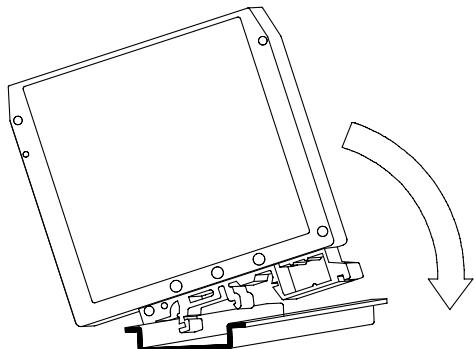
G Rail Installation

To install the ICM4 on a "G" style DIN rail, angle the module so that the upper groove of the "foot" catches under the lip of the top rail. Push the module toward the rail until it snaps into place. To remove a module from the rail, push up on the bottom of the module while pulling out away from the rail.



T Rail Installation

To install the ICM4 on a "T" style rail, angle the module so that the top groove of the "foot" is located over the lip of the top rail. Push the module toward the rail until it snaps into place. To remove a module from the rail, insert a screwdriver into the slot on the bottom of the "foot", and pry upwards on the module until it releases from the rail.



ORDERING INFORMATION

| MODEL NO. | DESCRIPTION | PART NUMBER |
|-----------|------------------------------|-------------|
| ICM4 | RS232/RS485 Converter Module | ICM40030 |

TROUBLESHOOTING

For further technical assistance, contact technical support at the appropriate company numbers listed.

LIMITED WARRANTY

The Company warrants the products it manufactures against defects in materials and workmanship for a period limited to two years from the date of shipment, provided the products have been stored, handled, installed, and used under proper conditions. The Company's liability under this limited warranty shall extend only to the repair or replacement of a defective product, at The Company's option. The Company disclaims all liability for any affirmation, promise or representation with respect to the products.

The customer agrees to hold Red Lion Controls harmless from, defend, and indemnify RLC against damages, claims, and expenses arising out of subsequent sales of RLC products or products containing components manufactured by RLC and based upon personal injuries, deaths, property damage, lost profits, and other matters which Buyer, its employees, or sub-contractors are or may be to any extent liable, including without limitation penalties imposed by the Consumer Product Safety Act (P.L. 92-573) and liability imposed upon any person pursuant to the Magnuson-Moss Warranty Act (P.L. 93-637), as now in effect or as amended hereafter.

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