

### 1 DESCRIPTION

**Devices Supported:** MDA System 16 Toxic Gas Monitor

**Interface:** RS-485

**Driver Description**

The MDA System 16 driver allows the FieldServer to transfer data to and from devices over RS485 using MDA System 16 protocol. The FieldServer can emulate a Server with the System 16.

**Hardware Connections**

Since MDA System 16 is a RS485 Protocol, the connection to the FieldServer can be made on the RS485 Ports (R1 or R2 on an FieldServer X40 or by configuring the serial port on an X20 for RS485)

Note: By using a RS485 to RS232 converter the P1 – P8 Ports on a FieldServer X40 may also be used for this protocol.

**Server Description**

The FieldServer is configured as a Passive Server, as shown in the Driver Manual.

**Client Description**

The FieldServer does not currently support this mode.

**Limitations**

### 2 COMMAND/SUBCOMMAND SUPPORTED

*The protocol specifies the MDA SYSTEM 16 instrument (device) as network master, which sends various data report commands to the FieldServer as remote node 0x49.*

- Most of the commands report configuration data. Command 0x30 causes the FieldServer to store ten UInt16s, among them gas concentration, from one of the 16 points.
- Select serial mode by setting 'remote devices y/n' to yes and 'bidirectional y/n' to yes.

- Select transmit only mode by setting 'remote devices y/n' to yes and 'bidirectional y/n' to no.
- In serial mode the device expects an ACK/NAK response. The FieldServer always responds.
- Monitor communications on system stat channel rx, or from the device.
- Recommend baud 9600 of the available 2400, 4800, 9600 8N1.
- Connect to J-15 NETWORK INTERFACE DB-25 on the back, where RS-422 pins 7=GND, 14=Tx-, 15=Tx+, 16=Rx-, and 17=Rx+.
- All packets bytes 0x49, length of entire packet in bytes, command, command-specific byte, etc., checksum, where sum of all bytes is 0.
- The 0x30 (Sequential Sample Result) packet is 0x49, 0x2a, 0x30, 2 byte date, 2 byte time, 1 byte point#, 1 byte analyzer#, 1 byte MDA gas#, 1 byte format code, 2 byte concentration, 1 byte current loop drive, 1 byte alarm flag, (repeat from 0x30 twice), checksum.
- Maps are 'server node 73 addr 0 len 320' or 'wrb node 73 addr 0 len 320'
- MDA gas#, format code, concentration, current loop drive, alarm flag, and a driver generated boolean consensus vote. For each attribute, sixteen data array locations are set aside for the 16 points. E.g. A1 concentration at 0x60, A1 alarm flag at 0x80

### 3 OBJECT TYPES/ATTRIBUTES SUPPORTED

Data Type	Attribute
Analog Output	Date
	Time
	Point # Analyzer # MDA gas# Format code Concentration Current Loop Drive Alarm Flag Consensus Vote