

## X2 – FOUNDATION Fieldbus<sup>™</sup>

The Series 2 Xpac or X2 uses an optional I/O board to allow for FOUNDATION fieldbus communications. This board converts X2 control parameters to and from (read/write) the various communication blocks used for the all digital two-way communication. The H1 device stack utilizes resource blocks, transducer blocks and analog and discrete input and output blocks to control device operation.

The Resource Block provides device identification and basic network communication parameters. The Analog Blocks communicate information such as setpoint, position, and actuator cylinder differential pressure (optional).

**Note:** Pressure differential is only available if the actuator is equipped with the appropriate pressure transducers. These transducers are not included in the HART option; they must be specified as additional equipment. Availability of pressure transducers may be limited by other construction details.

The Transducer Block links the input and output function blocks and provides access to read and configure control parameters. All X2 control parameters, with the exception of position low, position high, signal low and signal high, can be read or changed via the FF network.

**Note:** REXA actuators and drives are capable of exerting a tremendous amount of force with a minimum of maintenance. Proper operation and long service life depend upon proper set-up and initial calibration. For this reason, we currently do not offer initial position or signal calibration via network communications.

The device status including, operating mode and any error conditions (see below) can also be communicated.

Main Feedback failure	Accumulator requires recharge*
Seat Load Cylinder failure*	Bad keypad
Control signal failure	EEPROM erase failure
Actuator direction error	Pulse board missing
-15v supply failure	A/D failure
+15v supply failure	CPU failure
Seat Load Cylinder stall*	Open direction pressure bad*
Actuator stall	Close direction pressure bad*
Motor drive fault	Temperature too low*
Bad pressure reading*	Low oil**

\* May not apply to all models.

Some functions, such as Partial Stroke Testing (PST), require the collection of data over a period of time. The relatively slow (31.25 kbit/second) communication speed of FOUNDATION fieldbus is incapable of capturing the data itself. For this reason, a data collection function has been incorporated into the stack. Up to 200 samples of the setpoint, position and differential pressure (if so equipped), can be collected and stored on the card. The collection rate can be set from 1 to 20 samples per second. Collection can be initiated “manually” via the network or automatically via a definable setpoint differential.