MAXITROL®

iQm EXA E55 Modulating Valve Series

OPERATING INSTRUCTIONS

⚠ WARNING

Read these instructions carefully and completely before installing or operating. Failure to follow them could result in a fire or explosion causing property damage, personal injury, or loss of life. Service and installation **must** be performed by a trained/experienced service technician.

Disconnect power before installation to prevent electrical shock, equipment or control damage.

WHAT TO DO IF YOU SMELL GAS

- Do NOT operate any appliance.
- Do NOT touch any electrical switch; do NOT use any phone in your building.
- Immediately evacuate the area and contact the gas supplier. Follow the gas supplier's instructions.
- If you can NOT reach the gas supplier, call the fire department.

⚠ WARNING

This control **must** be installed and operated **strictly** in accordance with the instructions of the OEM and with all applicable government codes and regulations, e.g. plumbing, mechanical, and electrical codes and practices. These instructions do not supersede OEM's installation or operating instructions.

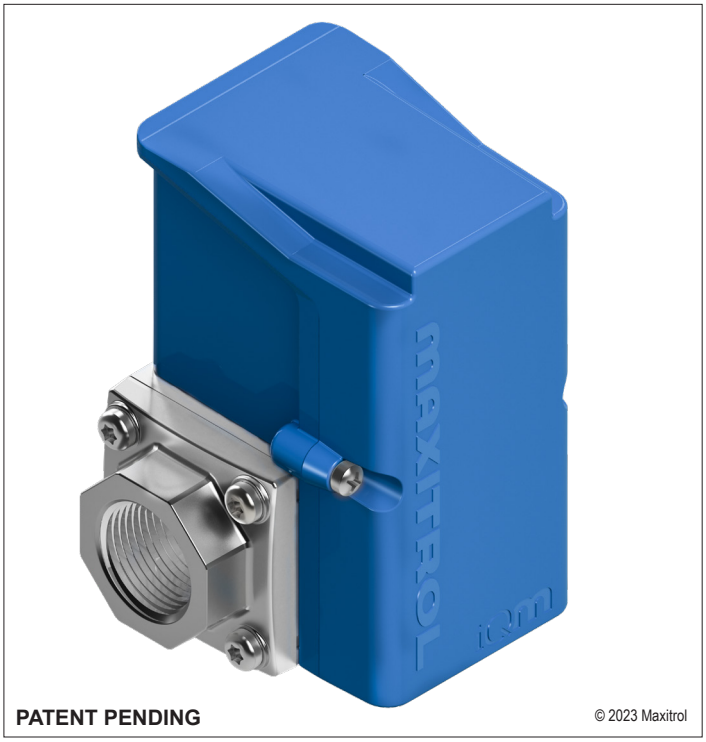

Figure 1: EXA E55 Modulating Valve Series

DESCRIPTION

The EXA E55 Series valves are designed to have a linear relationship between the control signal and flow rate. The flow rate linearization is optimized over a broad modulation range using a single control body.

On atmospheric low-pressure applications, EXA E55 Series' more consistent gain allows the controller's entire control signal range to be utilized and tuning is simplified.

This is a vast improvement over control valves using ball, butterfly, and poppet valve designs. Their parabolic flow rate characteristic significantly reduces the effective control signal range of the controller and can make tuning difficult.

The new EXA E55 has eliminated or reduced the number of optimized control valves previously required for various flow rates. One control body can now operate with linear capability and high resolution over a broad range of flow rates.

The EXA E55 modulating valve has a built-in digital controller that provides a seamless interface with a process controller.

The valve can be connected to automation communication systems using the Modbus RTU protocol.

Two fuel specific sets of high and low limits can be programmed manually or over Modbus. This is especially useful when converting from one fuel gas to another. Changing the limits for one fuel to the other is easily done in the factory or field with a dip switch setting.

The EXA E55 design utilizes single body construction with detachable pipe connection flanges. The body can be removed from pipeline without disturbing the pipe connections. The flanges are available in 3/8", 1/2" and 3/4" pipe sizes.

SPECIFICATIONS

Maximum Inlet Pressure
0.5 psig (consult Maxitrol for higher pressures)

Power Requirements
24 VAC/DC +/- 10% 50/60 hz
40 VA minimum, 1.5 A

NOTE: The EXA E55 uses a full-wave bridge or half-wave ("H" suffix) power supply. When using a single transformer for powering the EXA E55 and devices with half-wave rectifiers, the common for each must be connected to the same leg of the transformer. Control signal devices with full-wave bridge rectifiers require a separate transformer.
See "*Power Supply Compatibility*" bulletin.

Temperature Limits
-40º F to 120º F operating

Control Signal (user selectable)
0-5 VDC, 1-5 VDC, 0-10 VDC, 2-10 VDC, 0-10 mA, 2-10 mA, 0-20 mA, 4-20 mA; 50K Ohm Input Impedance

Mounting
Multipoise

Vent
None

Gases
Suitable for natural, manufactured, mixed gases, liquefied petroleum gases, and LP gas-air mixtures.

Certifications
- UL Recognized

Enclosure
PCB Cover

Electrical Connections
See Figure 2, page 5

Sizes
3/8" NPT or Rp ISO 7-1
1/2" NPT or Rp ISO 7-1
3/4" NPT or Rp ISO 7-1

Maximum Capacity
Maximum capacity is based on 1.0" w.c. pressure drop at maximum opening (step count 850).

NOTE: Flow rates less than maximum capacity (see Table 1) can be set to 1.0" w.c. pressure drop while maintaining high resolution and linearity.

Flow Capacity in Btu/h @ 1" w.c. Pressure Drop:		
Pipe Size	**Nat Gas**	**LP**
3/8"	250K	400K
1/2"	350K	560K
3/4"	400K	650K

Table 1: Maximum Capacity

MODBUS DEFAULT

Slave Address:	50
Baud Rate:	19.2K bps
Transmission Mode:	RTU
Electrical Interface:	RS485 (half duplex) or USB Type-C port (auto detection) **NOTE:** integral software interface: USB converter with virtual COM port.
Data Bits:	8
Stop Bits:	1
Parity:	None

SUPPORTED MODBUS FUNCTIONS

Function Code	Register Type
0x01	Read Coil
0x02	Read Discrete Input
0x03	Read Holding Registers
0x04	Read Input Registers
0x05	Write Single Coil
0x06	Write Single Holding Register
0x0f	Write Multiple Coils
0x10	Write Multple Holding Registers

Table 2: Supported Modbus Functions

HOLDING REGISTERS

Parameter Name	Access*	Address**	Data (dec)*
Position (target)	R/W	40000	LL ≤ target ≤ HL
Percent Open %	R/W	40001	0 - 100
Low limit setting - Fuel 1	R/W	40002	0 - (HL-1)
High limit setting - Fuel 1	R/W	40003	(LL+1) - 850
Low limit setting - Fuel 2	R/W	40004	0 - (HL-1)
High limit setting - Fuel 2	R/W	40005	(LL+1) - 850
Slave Address	R/W	40007	50 - 59
Baudrate	R/W	40008	9600, 19200
Parity	R/W	40009	0, 1 or 2
Stop Bits	R/W	40010	1 or 2

Table 3: Holding Registers

***R**ead and/or **W**rite; **LL** = Low limit setting; **HL** = High limit setting

**The register addresses correspond to offset "0" within the given funtion and base 0.

INPUT REGISTERS

Parameter Name	Access*	Address**	Data (dec)*
Position (actual)	R	30000	0 - 850
Low Limit Setting - Active	R	30001	0 - (HL-1)
High Limit Setting - Active	R	30002	(LL+1) - 850
Tare Value	R	30003	-
PCB Junction Temp	R	30004	(Ta) C
Firmware Major Version	R	30005	
Firmware Minor Version	R	30006	
Firmware Patch Version	R	30007	

Table 4: Input Registers

COILS

Parameter Name	Access*	Address**	Data*
Home	R/W	0	0 or 1
Tare	R/W	1	0 or 1

Table 5: Coils

DISCRETE INPUTS

Parameter Name	Access*	Address**	Data*
Fuel Type	R	10000	0 or 1

Table 6: Discrete Inputs

***R**ead and/or **W**rite; **LL =** Low limit setting; **HL =** High limit setting

**The register addresses correspond to offset "0" within the given funtion and base 0.

PARAMETER NAMES

Position (target)
Step count number valve element will travel to

Percent Open
Percent open of active low to high operating limits

Low limit setting - Fuel 1
Step count number at low fire position - Fuel 1

High limit setting - Fuel 1
Step count number at high fire position - Fuel 1

Low limit setting - Fuel 2
Step count number at low fire position - Fuel 2

High limit setting - Fuel 2
Step count number at high fire position - Fuel 2

Control Signal Offset
Offsets the control signals lower operational value

Slave Address
Address assigned to EXA E55.

Baud Rate
Data signaling rates

Parity
Parity bit specified by master

Stop Bits
Number of stop bit(s) specified by master

Position (actual)
Real time step count number of valve element position

Low limit setting - Active
Step count number at low fire position - Active Fuel

High limit setting - Active
Step count number at high fire position - Active Fuel

Tare Value
Value, unique to each valve, used to standardize the absolute minimum flow rate

PCB Junction Temperature
Ambient temperature degrees C sensed at pcb board

Firmware Version
Major, minor and patch versions of the operating system

Home (Reset)
Valve will cycle from current position step count to home position (see note) and back to previous position step count

NOTE: Home position is not within the operating set range. Homing while heater is in operation may cause a momentary increase in pressure.

Tare
Indicates if tare function is active

Fuel Type
Indicates which set of fuel limit settings is active

DIP SWITCH FUNCTIONS

Dip Switch 1 (DS1)	Function	OFF	ON	Comments
DS1-1	Modbus control (direct)		Enabled	Control Signal made inactive
DS1-2	Fuel Type - Active	Fuel 1	Fuel 2	Fuel 1 - 0, Fuel 2 - 1
DS1-4	Control Signal - 20% Offset		Enabled	See Table 8
Dip Switch 2 (DS2)	**Function**	**OFF**	**ON**	**Comments**
DS2-1	Control Signal - Type	Voltage	Current	See Table 8
DS2-2 & DS2-3	Control Signal - Half Range		Enabled	

Table 7: Dip Switch Function Table

Modbus Control

DS1-1 is ON to enable. Control signal input is disabled. Valve movement is controlled directly through Modbus communication. Write to holding register address 40000 or 40001 to control valve position.

NOTE: For proper operation, number written to holding register address 40000 must be ≥ low setting and ≤ high setting.

Tare Value (Modbus only)

The read only Tare Value (factory set) standardizes the absolute minimum flow rate. When tare value is enabled, 1 written to Coil Address 1, the absolute minimum flow rate setting equates to zero. A low limit fuel setting register cannot have a value below zero.

Fuel Type-Active

DS1-2 position sets which fuel type is active. DS1-2 OFF, Fuel 1 is active. DS1-2 ON, Fuel 2 is active. A fuel specific set of upper and lower limits can be assigned to Fuel 1 and Fuel 2. The DS1-2 setting automatically inputs* the programmed limits assigned for the fuel. This feature allows various fuels (e.g. Natural Gas and LP) to operate over the same Btu/h range simply by changing jumper DS1-2 status. The selected fuel type can be read in discrete input address 10000. Fuel 1: 0, Fuel 2: 1

***NOTE:** power cycle is required for fuel change.

CONTROL SIGNALS

The control signal indicates a position within the valve's programmed range of modulation. The control signal is "scaled" between the high and low fire setting of the valve. See Table 8, below, for control signal dip switch configuration.

NOTE: Control signal is polarity sensitive (see CONNECTIONS, page 5).

Control Signal Input - Dip Switch Configuration			
Control Signal Input	**DS1-4**	**DS2-1**	**DS2-2 & DS2-3**
0-5 V	OFF	OFF	ON
1-5 V	ON	OFF	ON
0-10 V	OFF	OFF	OFF
2-10 V	ON	OFF	OFF
0-10 mA	OFF	ON	ON
2-10 mA	ON	ON	ON
0-20 mA	OFF	ON	OFF
4-20 mA	ON	ON	OFF

Table 8: Control Signal Input - Dip Switch Configuration Table

Control Signal (20% offset)

DS1-4 is ON for all 20% offset control signals.

Control Signal (5V, 10 mA max)

DS2-2, DS2-3 are ON for all 5V and 10 mA maximum control signals.

Control Signal (Type)

DS2-1 is OFF for all voltage control signals and ON for all current control signals.

NOTE: Multiple dip switch settings are used with some control signals (See Table 8).

CONNECTIONS

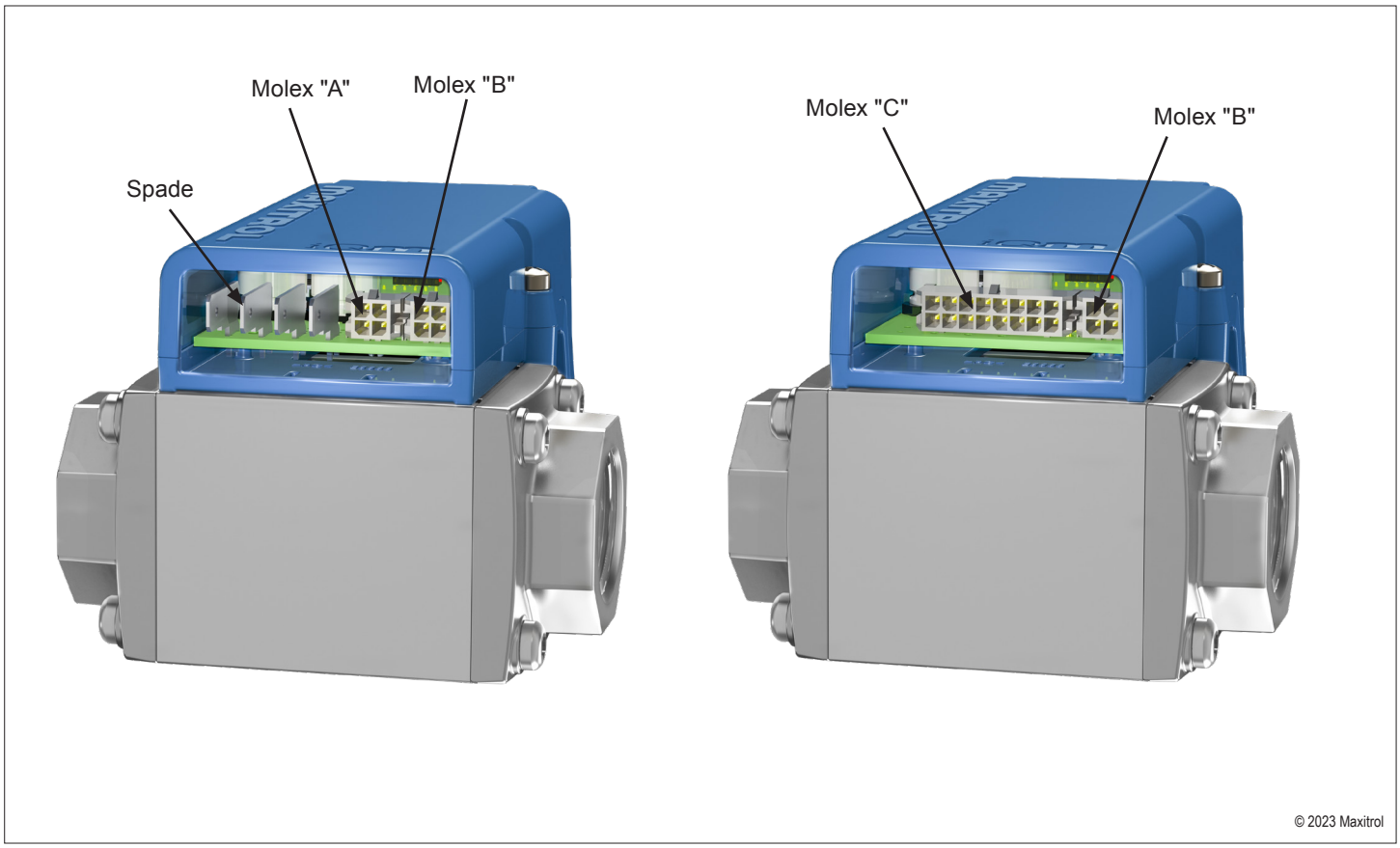

Figure 2: EXA E55 Modulating Valve Series Connections

Terminal configuration is as shown.

1/4" Spade Connection			
Terminal 1	Terminal 2	Terminal 3	Terminal 4
Power (-)	Power (+)	Signal (+)	Signal (-)

Molex "A" Connection	
Terminal 4 PWM	Terminal 3 RS485 **+**
Terminal 2 GND	Terminal 1 RS485 **-**

Molex "B" Connection	
Terminal 4 3.3 VDC	Terminal 3 I2C SCL
Terminal 2 GND	Terminal 1 I2C SDA

Available Connection Configurations				
	4-Spade	Molex "A"	Molex "B"	Molex "C"
1	X			
2	X	X		
3	X		X	
4	X	X	X	
5				X
6			X	X

4 pole Molex "A" and "B" - Micro-Fit 3.0 Male Header (430450401)

Mates with: Micro-Fit 3.0 Receptacle Housing 43025 or 172952 Series

Molex "C" Connection							
Terminal 16 Power (+)	Terminal 15 Signal (+)	Terminal 14	Terminal 13	Terminal 12	Terminal 11	Terminal 10 PWM	Terminal 9 RS485 **+**
Terminal 8 Power (-)	Terminal 7 Signal (-)	Terminal 6	Terminal 5	Terminal 4	Terminal 3	Terminal 2 GND	Terminal 1 RS485 **-**

16 pole Molex "C" - Micro-Fit 3.0 Male Header (430451622)

Mates with: Micro-Fit 3.0 Receptacle Housing 43025 or 172952 Series

USB Connection
USB Type-C

POSITION FEEDBACK OUTPUT SPECIFICATION

The PWM output will give a feedback to correspond with the current valve position between the programmed minimum and maximum positions. The duty cycle range is always scaled from the programmed minimum to the programmed maximum position.

Frequencey
200 Hz

Resolution
9-bit (0.2% duty cycle)

Duty Cycle
3% @ programmed minimum position
97% @ programmed maximum position

Output Impedance
3.2K Ω ± 0.1K Ω

Output High Voltage
5.0V nominal
5.25V maximum

NOTE: Output high level varies with the load current at the PWM output.

Output Low Voltage
0.0V

Connection
Molex "A" (see CONNECTIONS, page 5)

REFERENCE ON POWER-UP

Whenever 24 VAC/DC is initially applied, the valve element moves to the home state position* and then moves to the position determined by the controller input.

Maximum cycle time, minimum to home position and back to minimum position is less than 7 seconds.

***NOTE:** The valve's home position is not a setting limit.

MINIMUM HEATER SIZE

Minimum heater rating* to obtain 5:1 turndown Natural Gas, 3:1 turndown LP: 80 MBTU

*modulated section only

Consult Maxitrol for modulating applications rated lower than 80 MBTU.

CONNECTIONS/INITIAL CONFIGURATION

Step 1: Switch all electrical connections to OFF position

Step 2: Remove cover

Step 3: Set DS1-2 to fuel type (see Figure 4, page 8; Table 7, page 4).
See "Fuel Type-Active", page 4.

Step 4: Set dip switches to match desired control signal input (see Figure 4, page 8; Table 8, page 4).
For Modbus Control see Step 5.

Step 5: Optional ModBus Control - set DS1-1 to ON to enable (see Figure 4, page 8; Table 7, page 4). DS1-1 ON will disable Step 4 setting.

Step 6: Connect 24V (AC/DC) power source to spade terminals 1 and 2 or Molex "C" terminals 8 and 16 (see page 5).

Observe polarity when using a DC power source or if one leg of an AC transformer secondary is externally grounded or is sharing power with another half-wave device.

Step 7: Connect control signal, if used, to spade terminals 3 and 4 or Molex "C" terminals 7 and 15 (see page 5).

Observe polarity. Note that the return, or signal ground, must be connected to spade terminal 4 or Molex "C" terminal 7.

Step 8: Optional - Connect A or either B or C.

A. PWM feedback - Molex "A" terminals 2 and 4. Observe polarity (see page 5).

B. Modbus using RS485 - Molex "A" terminals 1, 2, and 3 or Molex "C" terminals 1, 9, and 2 (GND optional). Observe polarity (see page 5 and Figure 4, page 8).

C. Modbus using USB-C cable - USB-C to master connector (see page 5).

Step 9: Default Baud Rate is 19.2K bps.
To change baud rate to 9600, see "BAUD RATE", page 9, while performing Step 10.

Step 10: Switch electrical connections to ON position. Diagnostic LED should light up.

Step 11: Optional - Begin communication with Modbus master (see “ModBus”, page 2 for settings).

For using demonstration software, see "TESTING AND SETTING THE EXA E55 USING MODBUS", page 10.

Step 12: Set valve limits manually or electronically (see “VALVE SETTING", page 8).

Step 13: Replace cover.

DIMENSIONS

NOTE: Dimensions are to be used only as an aid in designing clearance for the valve. Actual production dimension may vary somewhat from those shown (see Figure 3 and Table 9).

Model	Swing Radius (SR)	Dimensions inches (millimeters)					
		A	B	C	D	E	F
EXA E55	3.75 (95)	4.25 (108)	.94 (24)	.94 (24)	2.88 (73)	3.75 (95)	2.25 (57)

Table 9: Dimensions

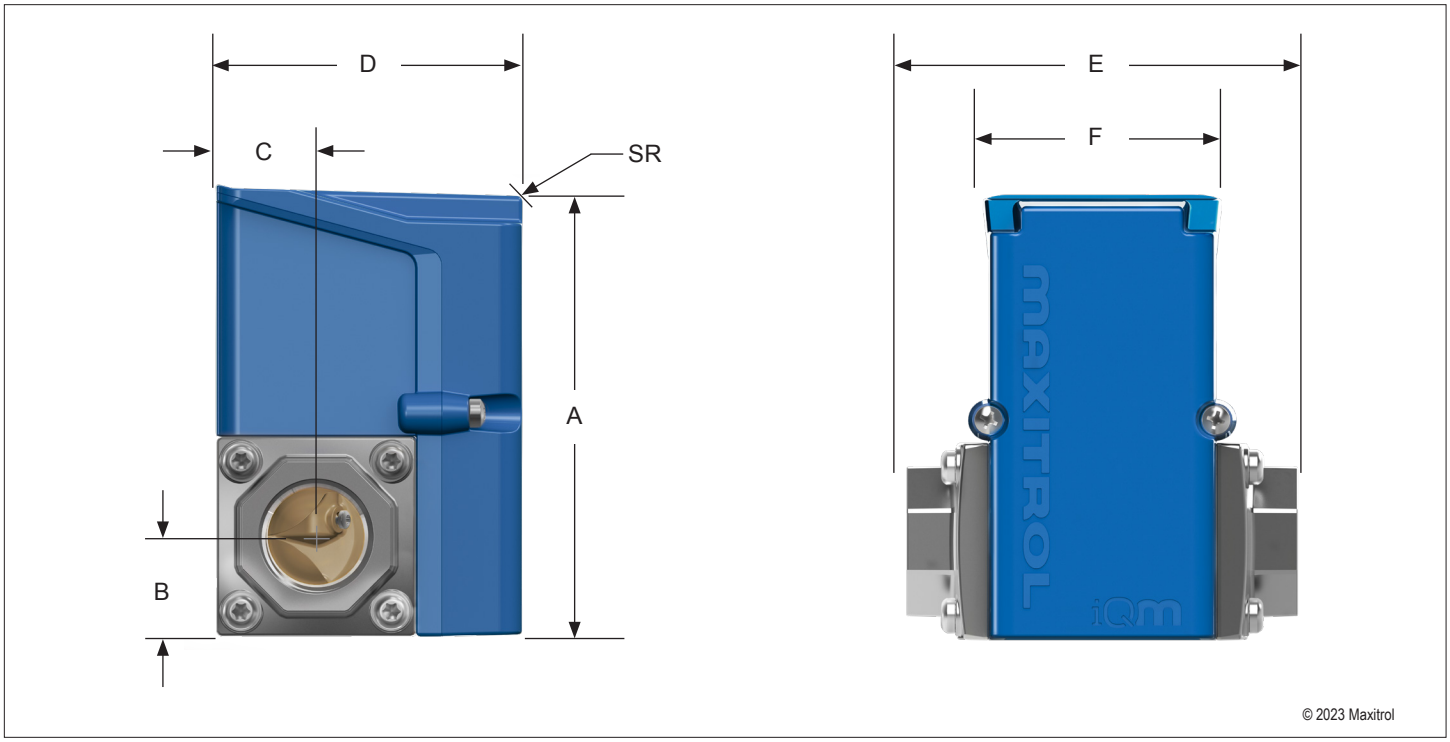

Figure 3: EXA E55 Modulating Valve Series Dimensions

SETTING VALVE LIMITS - MANUALLY

The EXA E55 modulating valve series has two (2) buttons and a Setting LED for the user interface. The buttons are used to manually set the valve for high and low fire settings.

1. High Fire Setting (LED will be solid green)
2. Low Fire Setting (LED will be blinking green)
3. Operating Mode (LED will be OFF)

High Fire Setting - Button #1

To enter the high fire setting mode, press and hold Button #1 until the LED lights solid green. Release. The valve is now in the high fire setting mode. Buttons #1 and #2 are used to set desired high fire setting.

To increase gas flow slowly, press button #1. Each button press will increase gas flow by the minimum available step size. To increase gas flow rapidlly, hold button #1. Holding the button down allows the valve to auto step and eliminates the need to repeatedly press the button.

To decrease gas flow slowly, press button #2. Each button press will decrease gas flow by the minimum available step size. To decrease gas flow rapidly, hold button #2. Holding the button down allows the valve to auto step and eliminates the need to repeatedly press the button.

To save the high fire setting, simultaneously hold Buttons #1 and #2 until the LED turns OFF.

NOTE: Controls left in manual setting mode will default to the current settings and return to normal operating mode after 5 minutes of inactivity.

Low Fire Setting - Button #2

To enter into the low fire setting mode, press and hold Button #2 until the LED light blinks green. Release. The valve is now in the low fire setting mode. Buttons #1 and #2 are used to set the desired low fire setting.

To decrease gas flow slowly, press button #2. Each button press will decrease gas flow by the minimum available step size. To decrease gas flow rapidly, hold button #2. Holding the button down allows the valve to auto step and eliminates the need to repeatedly press the button.

To increase gas flow slowly, press button #1. Each button press will increase gas flow by the minimum available step size. To increase gas flow rapidly, hold button #1. Holding the button down allows the valve to auto step and eliminates the need to repeatedly press the button.

To save the low fire setting, simultaneously hold Buttons #1 and #2 until the blinking LED turns OFF.

NOTE: Controls left in manual setting mode will default to the current setting and return to normal operating mode after 5 minutes of inactivity.

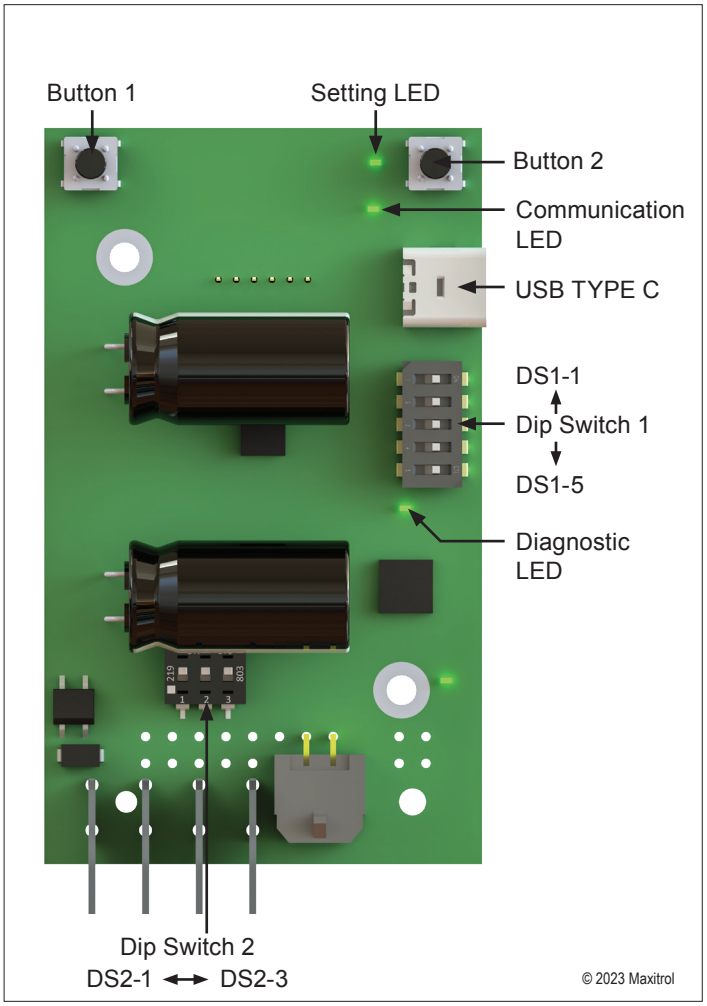

Figure 4: EXA E55 Modulating Valve Series PCB Interface

Program Second Fuel Specific Set - High and Low Fire Setting

Remove power. Switch DS1-2 position to ON. Restore power. Follow previous procedure for setting the high and low fire limits.

DS1-2 position determines which set of programmed limits are operationally active.

LEDS

Communication LED: Blinks during data transfers

Diagnostic LED: On indicates sufficient voltage for valve operation

Setting LED: Indicates mode when manually setting valve limits and signals slave address on power up

SETTING VALVE LIMITS - ELECTRONICALLY

EXA E55 modulating valves connnected to a Modbus communication system can program the high fire and low fire settings by writing to assigned register addresses. Transmission is over RS485 or a USB Type C cable. A Communication LED flashes during data transfers (see Figure 4, page 8).

The valve is capable of having two fuel specific sets of limits written to memory. Valves are typically preset from the factory or have known integer inputs to set the desired low and high fire settings for each fuel type.

NOTE: Fuel setting DS1-2 position determines the active set of operational limits (see Table 7, page 4).

If changes to either set of limits is required, proceed with the following:

NOTE: Minimum setting limit = 0
Maximum setting limit = 850

FUEL 1

Low Fire Setting - Holding Register Address 40002

Read (03) register 40002 and note the number located in the data field.

Optional: Read (03) register 40003 and note the number located in the data field.

If a lower minimum flow rate is desired write (06) a lower number into the data field of register 40002.

If a higher minimum flow rate is desired write (06) a higher number into the data field of register 40002.

NOTE: Number must be less than number observed in register 40003 data field.

Repeat until the desired minimum setting is achieved.

Optional: Read (03) register 40002 to confirm the number has changed to last inputted number.

High Fire Setting - Holding Register Address 40003

Read (03) register 40003 and note the number located in the data field.

Optional: Read (03) register 40002 and note the number located in the data field.

If a lower maximum flow rate is desired write (06) a lower number into the data of register 40003 and update the valve.

NOTE: Number must be greater than number observed in register 40002 data field.

If a higher maximum flow rate is desired write (06) a higher number into the data of register 40003 and update the valve.

Repeat until the desired maximum setting is achieved.

Optional: Read (03) register 40003 to confirm the number has changed to last inputted number.

FUEL 2

Low Fire Setting - Holding Register Address 40004
Same procedure as Active Low Fire Setting - Holding Register 40002 with the following exception. Substitute register 40004 wherever register 40002 is referenced and register 40005 wherever register 40003 is referenced.

High Fire Setting - Holding Register Address 40005
Same procedure as Active High Fire Setting - Holding Register 40003 with the following exception. Substitute register 40005 wherever register 40003 is referenced and register 40004 wherever register 40002 is referenced.

BAUD RATE

Manually
Remove power. Press and hold the applicable button while powering on (see Figure 4, page 8).

Button 1: 9600 bps
Button 2: 19.2 K bps

When power is restored, release button.

NOTE: Manual reset of baud rate will also default parity and stop bits settings as follows: Stop Bits - 1, Parity - None

Electronically
9600 bps - Write 9600 to Holding Register Address 40008
19.2k bps - Write 19200 to Holding Register Address 40008

CHANGE ACTIVE FUEL

Remove power. Switch Fuel DS1-2 position (see Figure 4, page 8). Restore power.

HOME (RESET) - COIL 0

Write 1 to Coil 0

SLAVE ADDRESS - HOLDING REGISTER ADDRESS 40007

Write desired address number (51, 52....59) to holding register 40007.

Remove power from valve.

When valve power is restored, the Setting LED (see Figure 4, page 8) will flash the one's place of the address number. (e.g. two flashes designates address 52.)

The default value of 50 does not flash.

PARITY - HOLDING REGISTER ADDRESS 40009

Write desired Parity (NONE: 0; ODD: 1; EVEN: 2) to Holding Register Address 40009.

STOP BITS - HOLDING REGISTER ADDRESS 40010

Write desired Stop Bits (1 or 2) to Holding Register Address 40010.

TESTING AND SETTING THE EXA E55 USING MODBUS

Modbus master simulators for test and setting purposes can be downloaded from the internet. Two such free programs are QModMaster and QModBus.
Both programs are easy to setup, have graphical interfaces and are known to connect and communicate with the EXA E55.

Setup

Download QModMaster or QModBus from the SOURCEFORGE website.

Follow steps 1-10 in CONNECTIONS/INITIAL CONFIGURATION section (see page 6).

NOTE: If Step 9b is used, a USB to RS485 converter may be required (see Table 10, page 11).

QModMaster

Open program

Menu bar: select Options: select Modbus RTU

Modbus RTU dropdown menu settings:

Serial device:	COM
Serial Port:	connected COM port #
Baud:	19.2K
Data bits:	8
Stop bits:	1
Parity:	None
RTS:	Disable
Click	OK

Set main screen parameters as follows:

Slave Addr:	50
Scan Rate:	1000 (1 sec)
Function Code:	Read Holding Registers (0x03)
Start Address:	40002
Number of Registers:	1
Data Format:	Dec

Click “Connect” - 3rd toolbar icon from left

Click “Read/Write” - 4th toolbar icon from left
Data appears in whitespace box

View raw transmitted and received data:
Menu bar: select View: select Bus Monitor

View continuous transmitted and received data:
Click “Scan” icon – 5th toolbar icon from left
Set scan rate in main view

Proceed to the QModMaster and QModBus Section

QModBus

Open program

Main view settings:

Serial Port:	USB Serial Port (COMx)
Baud:	19.2K
Data bits:	8
Stop bits:	1
Parity:	None
Slave ID:	50
Function code:	Read Holding Registers (0x03)
Start Address:	40002
Num of coils:	1

Click “Send”

Register 40002 data displayed in the “Register” Data box.

Proceed to QModMaster and QModBus Section

QModBus and QModMaster

By successfully executing one of the above setups, Holding Register 40002, the Fuel 1 low limit setting data has been read.

Read

To read other registers, coils, descrete inputs, perform the following:

Select desired read function code.

Change “Start address” to desired parameter (see pages 2 and 3).

QModMaster:	Click “Read/Write” icon
QModBus:	Click “Send”

NOTE: QModMaster can request data from the EXA E55 (read function) at a set rate. Click the “Scan” icon to use this feature. Set the rate in Main View “Scan rate”.
This feature can be useful to stream data that is changing over time.
Example: Input Register 30000 data can be read to observe valve movement and position with a varying control signal input.

TESTING AND SETTING THE EXA E55 USING MODBUS

Write

To change data saved in Read/Write or Write registers or Coils, select desired “Write Function Code” in the dropdown menu.

Change “Start address” to desired Write or Read/Write parameter (see pages 2 and 3).

Overwrite existing data with new data

QModMaster: Click “Read/Write” icon
QModBus: Click “Send”

USB TO RS485 CONVERTER

RS485 Converter Output*	EXA E55
-	Molex "A" (Terminal 1)
+	Molex "A" (Terminal 3)

Table 10: USB to RS485 converter

*Refer to data sheet supplied with converter

MAXITROL®

Maxitrol Company
23555 Telegraph Rd., P.O. Box 2230
Southfield, MI 48037-2230 U.S.A.

EXA_E55_MS_EN_10.31.2023

www.maxitrol.com