

Alarm Output Setup

The Kurz Instruments MFT-B Series Flow Meter can be factory configured with up to 2 alarms. The alarms can be monitored on the LCD display, via ASCII or Modbus commands or through the HART interface. Additionally, the alarms can be setup to energize a relay output when an alarm event occurs.

The Alarm Setup Menu is available in *Program Mode*. Enter *Program Mode*, press **P**, the **654321** access code, and **E**. Press **2** to invoke the *Quick Jump* option entry method and select **Option #9** for the Alarm Setup Menu.

If the screen displays

```
ALARM FUNCTION
IS NOT INSTALLED
```

the meter was not purchased with this option. [Section I](#) defines each version of the hardware to check if this feature is available for your meter.

If the meter is configured with the alarm option, the menu system will prompt for an Alarm #. Use the numeric keys to enter either 1 or 2 for the desired alarm # and **E** to accept the entry.

```
SELECT ALARM #
> 1
```

The menu system will next prompt to set the selected alarm ON or OFF. Use the **^** or **v** key to change the selection to 'ON' then press **E** to accept the selection.

```
SET ALARM 1
>ON
```

The menu system next prompts the user to select from a list of trigger events that will actuate the alarm. The available events are:

FLOW RATE Limits check
VELOCITY Limits check
TEMPERATURE Limits check
GLOBAL EVENT

```
ALARM 1 TRIGGER
>FLOW RATE      ^v
```

Use the **^** or **v** key to scroll through the list and press **E** to accept the desired trigger event for the alarm. GLOBAL EVENT is selected if the alarm will be triggered by any System Fault Event. Select FLOW RATE, VELOCITY or TEMPERATURE to monitor one of the meter's process variables with respect to a set point limit. If FLOW RATE, VELOCITY or TEMPERATURE is selected, the menu system will prompt for a trip condition for the trigger that will actuate the alarm. The trip condition can be LOW SETPOINT / HIGH SETPOINT / LO AND HI SP. Use the **^** or **v** key to scroll through the list and press **E** to accept the desired trip condition.

```
ALARM 1 TRIP
>LOW SETPOINT  ^v
```

The next menu screens prompt the user for the LOW and/or HIGH set points depending on the trip condition selected. The examples below show the screens prompting for the FLOW RATE low and high alarm set points. Use the numeric and decimal keys to enter the set point value and press **E** to accept the entry.

```
LO ALARM SETPT
>0.0000000 SFPM
```

```
HI ALARM SETPT
>10000.0000 SFPM
```

If the alarm condition will energize one of the relay outputs, the next sequence of screens show the setup of the relay output assigned to the alarm.

```
CONTINUE WITH
RELAY SETUP>YES
```

Use the **^** or **v** keys to select between YES or NO and press **E** to accept the entry (alternatively, press **H** to exit out of the Alarm Setup Menu and return to the Program Mode Option Entry screen if the alarm will not energize a relay).

It is recommended, that the **Relay Assignment Menu (Option #8)** is used to assign a relay to the alarm function. The Relay Assignment Menu will invoke the Alarm Setup Menu once a relay is assigned to the Alarm Function.

Before setting up the relay for the alarm, the menu system checks if the relay is assigned to another active function. If the relay is being used, the following screen will be displayed (where x will be either 1 or 2)

```
DOx IS USED!!
CHANGE IT>NO
```

This prompt indicates that the relay is assigned to either the TOTALIZER PULSE OUTPUT or the PURGE OUTPUT function. Use the **^** or **v** keys to change the selection to YES to proceed with the relay reassignment. Otherwise press **H**, **E**, or **P** to skip the relay setup for the alarm.

The screen may display the following

```
ALARM x AT DO y
REASSIGN >NO
```

This prompt indicates that the relay is currently assigned to the other alarm. Use the **^** or **v** keys to change the selection to YES and press **E** to reassign the relay to the alarm being setup. If the relay is reassigned, the other alarm will still be active, but it will not energize any relay. It is recommended that the user start with the **Relay Assignment Menu (Option #8)** to avoid the conflicting assignments of relays.

The menu system will confirm the relay selection and alarm # assignment similar to the following:

```
ALARM #1
ASSIGNED TO DO1
```

Press **P** or **C** to advance to the next setup screen.

After the relay selection is confirmed, the menu system will prompt for the normal (unalarmed) state of the relay

```
RELAY 1 STATE
>NORMALLY OPN    ^v
```

Use the **^** or **v** keys to select between NORMALLY OPN or NORMALLY CLS. NORMALLY OPN is used if the contact will be closed when the alarm is triggered and NORMALLY CLS is used if the contact will be opened when the alarm is triggered.

Press **E** to accept the selection and exit the Alarm Setup menu. If the meter is purchased with multiple alarms, the Alarm Setup can be repeated for the other alarm.

NOTE: As the Relays are solid state optically isolated, SSRs (SPST), their unpowered state is open circuit which must be considered for fail-safe alarm logic configurations.