

1.1 Program Mode

Option #	Menu	Parameters
1	Basic Meter Setup (BASIC SETUP)	[Display] Meter Type Is (IN-LINE FLOW/INSERTION FLOW) Tag Name [H] Flow Units [H] <Flow Area Wizard> [H] Duct Profile (ROUND/RECTANGLE) <ROUND> Inside Diameter <RECTANGLE> Duct Width Duct Height Flow Area (calculated from Duct Profile) [H] (can override with manual entry) Probe Depth (for INSERTION meter only) Analog Out 1 (FLOW RATE/VELOCITY/TEMPERATURE/PID) AO1 at 4mA [H] AO1 at 20mA [H] Analog Out 2 (FLOW RATE/VELOCITY/TEMPERATURE/PID) AO2 at 4mA AO2 at 20mA Run Mode Display (SCROLLED/STATIC) <SCROLLED> Scrolled Vars (SCROLL ALL/FLOW ONLY/FLOW+TOT/FLOW+VEL/ TAG+FLOW/TAG+FLOW+VEL/FLOW+TOT+VEL/ FLOW+TEMP/FLOW+TEMP+VEL) Scroll Interval <STATIC> Static Vars (FLOW ONLY/FLOW+TOT/FLOW+VEL/TAG+FLOW/ FLOW+TEMP)
2	Flow Cutoff (FLOW CUTOFF)	Flow Cutoff SW (OFF/ON) Lo Flow Cutoff
3	Flow Correction Factor and Time Constant (FLOW CF/TC)	[Display] Sensor Blockage CF is (for INSERTION type only) Field Calib CF [H] Flow TC Sec [H]
4	Setup Flow Totalizer Reset (RESET TOTAL)	Totalizer Reset (MAN RESET/AUTO RESET) <MAN RESET> Reset Flow Total (YES/NO) [H] <AUTO RESET> Total Reset Cnt Reset Flow Total (YES/NO) [H]
5	Setup Analog Output #1 (AOUT 1)	Analog Out 1 (FLOW RATE/VELOCITY/TEMPERATURE/PID) AO1 at 4mA [H] AO1 at 20mA [H]
6	Setup Analog Output #2 (AOUT 2)	Analog Out 2 (FLOW RATE/VELOCITY/TEMPERATURE/PID) AO2 at 4mA AO2 at 20mA
7	Setup Run Mode Display (RUN DISPLAY)	Run Mode Display (SCROLLED/STATIC) <SCROLLED> Scrolled Vars (SCROLL ALL/FLOW ONLY/FLOW+TOT/FLOW+VEL/ TAG+FLOW/TAG+FLOW+VEL/FLOW+TOT+VEL/ FLOW+TEMP/FLOW+TEMP+VEL) Scroll Interval <STATIC> Static Vars (FLOW ONLY/FLOW+TOT/FLOW+VEL/TAG+FLOW/ FLOW+TEMP)
8	Setup Relay Output	Select Relay #

	(ASSIGN DOUT)	Assign Relay To (ALARM OUTPUT/TOT PULSE OUT/PURGE OUTPUT) <ALARM OUTPUT> See Setup Alarm <TOT PULSE OUT> See Setup Pulse Output <PURGE OUTPUT> See Setup Sensor Purge
9	Setup Alarm (ALARM SETUP)	Select Alarm # Set Alarm x (OFF/ON) Alarm x Trigger (VELOCITY/FLOW RATE/TEMPERATURE/GLOBAL EVENT) Alarm x Trip (LOW SETPOINT/HI SETPOINT/LO AND HI SP) <LOW SETPOINT> LO Alarm Setpt <HI SETPOINT> HI Alarm Setpt <LO AND HI SP> LO Alarm Setpt HI Alarm Setpt Continue with Relay Setup (NO/YES) <YES> [Display] Alarm x Assigned to DO n Relay n State (NORMALLY OPN/NORMALLY CLS)
10	Setup NE-43 Alarm (NE-43 ALRM)	NE-43 Alarm Type (LOW OUTPUT/HIGH OUTPUT)
11	Setup Pulse Output (PULSE OUT)	Pulse Output (OFF/ON) <ON> [Display] Pulse Output Assigned to DO m Flow Volume per Pulse Pulse Width
12	Setup Sensor Purge (PURGE TIMR)	Purge Timer (OFF/ON) [H] <ON> [Display] Purge Output Assigned to DO n Purge Time msec [H] Hold Time msec [H] Purge Intv min [H]
13	Setup Flow Calibration Parameters (CALIB DATA)	[Display] Sensor SN Cal Flow Unit [Display] Factory STP Ref User Ref Temp [H] User Ref Press [H] Cal Curve Type (VELOCITY MAP/MULTIPLE CAL) <VELOCITY MAP> VM Reference (INTERNAL/EXTERNAL) Gas Mol Wt [Display] New Ref Density Gas Name # VM Data Sets (x) Flow Data for S1 # Data Pts At S1 (y) Raw Signal S1-1 Flow Data S1-1 : Raw Signal S1-y Flow Data S1-y : Flow Data for Sx # Data Pts at Sx (n) Raw Signal Sx-1 Flow Data Sx-1

		: Raw Signal Sx-n Flow Data Sx-n
14	Calibrate Outputs (CALIB AOUT)	Set 4.000 mA to Out 1 [H] Set 20.000 mA to Out 1 [H] [Display] AO1 Calib Coeff Set 4.000 mA to Out 2 Set 20.000 mA to Out 2 [Display] AO2 Calib Coeff Chk NE-43 Alarms (YES/NO) <YES> Low Alarm Check High Alarm Check Enter (mA) output [Display] (requested) mA and equivalent V
15	Variable Flow Correction Data (VRMS DATA)	Enter # of Flow Data Sets n [H] Enter Flow Data Set i to Change Ref Value Ri (Vrms-i) [H] Test Data Di (VdsAve-i) [H]
16	Remote Correction Factor Data (REMOTE CF)	Remote CF OFF/ON Enter # of Remote CF Data Points n Enter ExtInput.RemCF-D1 Enter ExtInput.RemCF-X1 : Enter ExtInput.RemCF-Dn Enter ExtInput.RemCF-Xn
17	Select Gas Calibration Curve (CAL CURVE)	Curve Sel Mode (MANUAL SELECT/EXT INPUT LEV) <MANUAL SELECT> Cal Curve #
18	Setup Data Logging (DATA LOG)	Enable Data Log (OFF/ON) <ON> Log Interval Sec
19	Setup Modbus Communication (MODBUS COM)	Dev Modbus Addr Modbus Mode (MODBUS RTU/MODBUS ASCII) Modbus Baud Rate (9600/14400/19200/38400/57600) Register Order (BYTE #12 34/BYTE #34 12)
20	Setup External Input (EXT AINPUT)	Ext Input Usage (CAL DATA SW/VM REFERENCE/PURGE COMMAND/ PID EXT. REF/REMOTE CF) <VM REFERENCE> Scale Unit Inp Val At 4mA Inp Val At 20mA Filter TC
21	Setup PID Data (PID SETUP)	PID State (OFF/ON) PID Operation (MANUAL/AUTOMATIC) PID Control To (VELOCITY/FLOW RATE) PID Setpt Ref (INTERNAL/EXTERNAL) PID Setpoint Prop Gain (KP) Integral TC Derivative TC PID Low Limit PID High Limit
22	Manual PID Adjust (PID CONTRL)	Manual PID Adjust
23	Setup Drift Check (DRIFT CHCK)	Auto Drift Check (OFF/ON) [H] Drift Chk Intrvl [H] % FS at Zero [H] Duration at Zero [H] % FS at Mid [H] Duration at Mid [H]

		% FS at Span [H] Duration at Span [H]
24	Change User Password (CHANGE PW)	Basic Setup Code Adv Setup Code
25	Update FROM EEPROM (GET EEPROM)	Load From EEPROM (NO/YES)
26	Set Bootup Output Delay (BOOTUP DLY)	Bootup Out Delay
27-30	<Not Used>	
31	Factory Meter Setup (METR CONFG)	Board Assy # Board Build Board Assy Rev. Probe Size # of Meters # of Outputs # of Alarms # of Pulse Out Purge Timer (DISABLED/ENABLED) PID Control (DISABLED/ENABLED) FD2 Sensor Limit (500 DEGC/600 DEGC) Rem Corr Factor (DISABLED/ENABLED) Multi Cal Curve (DISABLED/ENABLED) Reset Counters (YES/NO)
32	Factory Sensor Setup (SENS CONFG)	Sensor S/N TC Mode (POWER MODE/CURRENT MODE) Sensor Type (FD=9/300/MD=9/100/CD=19/19/FD2=9/27) RP0 RT0 RX RY RB [Display] Sensor Material RP CSR RTC CSR
33	Calibration Coefficients (INCAL CONF)	Bar Code VPs ZERO VPs GAIN VPs TC Vlph ZERO VlphGAIN Vlph TC VRtcl ZERO VRtcl GAIN VRtcl TC VRtch ZERO VRtch GAIN VRtch TC VLS ZERO VLS GAIN VLS TC VL1 ZERO VL1 GAIN VL1 TC VExt ZERO VExt GAIN VExt TC VTemp ZERO VTemp GAIN VTemp TC VCal ZERO VCal GAIN VCal TC

		VDrv ZERO VDrv GAIN RP CSR Coeff RTC CSR Coeff
34	Setup Manufacturing Data (PROD CONFG)	Model Number Part Number(1) – PAR#-F1-F2-F3-F4 Part Number(2) – F4 thru F7 Part Number(3) – F8 thru F12 Item Number Manufacture Date Last Cal. Date [Display] Sensor S/N
35	Save TO EEPROM (SAV 2 EEPR)	Save to EEPROM (NO/YES)
36	Bridge PID Coefficients (BRIDGE PID)	Bridge PID P Coeff Bridge PID I Coeff Bridge PID D Coeff
37	Disable AutoSave (AUTO SAVE)	AutoSave (DISABLED/ENABLED)
38	Disable Terminal Home (CURSR HOME)	Terminal Home (DISABLED/ENABLED)
39	Extended Factory Setup (SETFACTORY)	Manufacture Date Tag Name Probe Size Flow Units Flow Area Cal Flow Unit Factory Calib Temp Reference Factory Calib Press Reference Analog Out 1 (FLOW RATE/VELOCITY/TEMPERATURE/PID) AO1at 4mA AO1 at 20mA Analog Out 2 (FLOW RATE/VELOCITY/TEMPERATURE/PID) AO2 at 4mA AO2 at 20mA Run Mode Display (SCROLLED/STATIC) <SCROLLED> Scrolled Vars (SCROLL ALL/FLOW ONLY/FLOW+TOT/FLOW+VEL/ TAG+FLOW/TAG+FLOW+VEL/FLOW+TOT+VEL/ FLOW+TEMP/FLOW+TEMP+VEL) Scroll Interval <STATIC> Static Vars (FLOW ONLY/FLOW+TOT/FLOW+VEL/TAG+FLOW/ FLOW+TEMP) Dev Modbus Addr Modbus Mode (MODBUS RTU/MODBUS ASCII) Modbus Baud Rate (9600/14400/19200/38400/57600) Register Order(BYTE #12 34/BYTE #34 12) Reset Counters (YES/NO) VM Reference Gas Molecular Weight [Display] New Reference Density Gas Name Number of Calibration Curves Enter Calibration Flow Data (for each curve) (Factory Sensor Setup) Sensor S/N TC Mode (POWER MODE/CURRENT MODE) Sensor Type (FD=9/300/MD=9/100/CD=19/19/FD2=9/27) RP0

		RT0 RX RY RB [Display] Sensor Material RP CSR RTC CSR
40	Set Analog Output Cal Coefficient (AO CALCOEF)	AO1 Slope Coeff AO1 Offset Coeff AO2 Slope Coeff AO2 Offset Coeff

1.2 Display Mode

Option #	Function Description
1	Basic Meter Setup (BASIC SETUP)
2	Flow Cutoff (FLOW CUTOFF)
3	Flow Correction Factor and Time Constant (FLOW CF/TC)
4	Setup Flow Totalizer Reset (RESET TOTAL)
5	Setup Analog Output #1 (AOUT 1)
6	Setup Analog Output #2 (AOUT 2)
7	Setup Run Mode Display (RUN DISPLAY)
8	Setup Relay Output (ASSIGN DOUT)
9	Setup Alarm (ALARM SETUP)
10	Setup NE-43 Alarm (NE-43 ALRM)
11	Setup Pulse Output (PULSE OUT)
12	Setup Sensor Purge (PURGE TIMR)
13	Setup Flow Calibration Parameters (CALIB DATA)
14	Calibrate Outputs (CALIB AOUT)
15	Variable Flow Correction Data (VRMS DATA)
16	Remote Correction Factor Data (REMOTE CF)
17	Select Gas Calibration Curve (CAL CURVE)
18	Setup Data Logging (DATA LOG)
19	Setup Modbus Communication (MODBUS COM)
20	Setup External Input (EXT AINPUT)
21	Setup PID Data (PID SETUP)
22	Manual PID Adjust (PID CONTRL)
23	Setup Drift Check (DRIFT CHCK)
24	Change User Password (CHANGE PW)
25	Update FROM EEPROM (GET EEPROM)
26	Set Bootup Output Delay (BOOTUP DLY)
27	<not used>
28	<not used>
29	<not used>
30	<not used>
31	Factory Meter Setup (METR CONFG)
32	Factory Sensor Setup (SENS CONFG)
33	Calibration Coefficients (INCAL CONF)
34	Setup Manufacturing Data (PROD CONFG)
35	Save TO EEPROM (SAV 2 EEPR)
36	Bridge PID Coefficients (BRIDGE PID)
37	AutoSave status (AUTO SAVE)
38	Terminal Home status (CURSR HOME)
39	Extended Factory Meter Setup (SETFACTORY)
40	Set Analog Output Cal Coefficient (AO CALCOEF)
41	Input Current (EXT INP mA)
42	Flow Data (FLOW DATA)
43	Temperature Data (TEMP DATA)
44	Input Voltage (INPUT VOLT) [H]
45	Sensor Output (SENSOR OUT) [H]
46	Sensor Control (SENSOR CTL)
47	Electronics Temperature (ELEC TEMP)
48	Sensor Leakage (SENS LEAKG)
49	Meter Event Code (EVENT CODE)
50	Firmware Version (FW VERSION)

1.3 Log Mode

Option #	Function Description
1	Event Log (EVENT)
2	Min/Max Data (MIN/MAX)
3	Trend Log (TREND)
4	System Configuration (CONFIG)
5	Snapshot of Flow Meter Data (RUN DATA)

1.4 Extended Utility Mode

Option #	Function Description
1	Drift Check at Zero (ZERO DRIFT) [H]
2	Drift Check at Mid-span (MIDSP DRIFT) [H]
3	Drift Check at Full-span (FULLSP DRFT) [H]
4	Drift Check Cycle (all tests) (CYCLE DRIFT) [H]
5	Reset Flow Total (RESET TOTAL) [H]
6	Reset Event Log Memory (DEL EVENTS)
7	Reset Min/Max Records (DEL MIN/MAX)
8	Reset Runtime Counter (RESET RUNTM)
9	RP Circuit Test (RP CIRCUIT)
10	RTC Circuit Test (RTC CIRC)
11	Input Cal Low Test (IN CAL LO)
12	Input Cal High Test (IN CAL HI)
13	End Input Cal Test (END IN CAL)
14	VLeak Cal High (VLEAK HI)
15	VLeak Cal Low (VLEAK LO)
16	Voltage Drive Test (VOLTG DRV)
17	Voltage Ramp Test (VOLTG RAMP)
18	Bridge PID Coefficients (BRIDGE PID)
19	Event Code Bit Test (EVENT TEST)
20	Display Input Voltages (INPUT VOLT)
21	Display Sensor Output (SENSOR OUT)
22	Display Sensor Control (SENSOR CTL)
23	Display Electrical Temperature (ELEC TEMP)
24	Sensor Leakage (SENS LEAKG)