



## N410 DELUXE BATCH CONTROLLER

The N410 batch controller distinguishes itself by its user-friendly features:

- Numerical keypad
- Clear programming menu structure
- Easy-to-read and simple mounting enclosure
- The numerical keypad allows simple and fast changing of the preset batch quality

## APPLICATIONS

- Accurate batching or filling of liquids where the batch size changes frequently.
- The N410 offers the perfect solution for batch control applications where a user-friendly instrument is required.

## BENEFITS

- Save time and cost with the easy to operate numerical keypad.
- Key information at a glance as the display simultaneously shows actual value, preset value, batch process indication, relay status and measuring units.
- Easy installation with the rugged aluminum DIN-size panel mount enclosure.

## APPROVALS



## PRODUCT CONFIGURATION

### PRODUCT IDENTIFIER 1

N410 = Deluxe Batch Controller

### FLOWMETER INPUT SIGNAL 2

P = Pulse Input: NPN, Open Collector, Reed Switch, Active Pulse Signals

### COMMUNICATION 3

CX = No Communication

### PANEL MOUNT FRONT CLOSURE 4

HB = Aluminum Front Panel - IP67 (NEMA 4X)

### OUTPUTS 5

OR = 2 Field Replaceable, Mechanical Relays (NO-NC) and 1 Passive Transistor Output

### POWER REQUIREMENTS 6

PG = 24 VDC and 110 - 230 VAC, both with sensor supply

### HAZARDOUS AREA 7

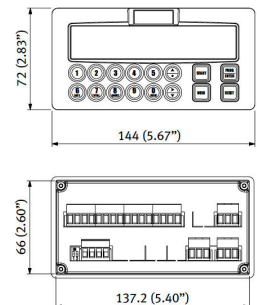
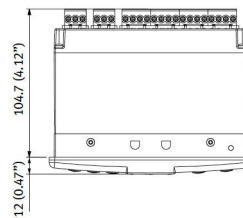
XX = Safe Areas Only

### OTHER OPTIONS 8

ZX = No Options

1 2 3 4 5 6 7 8  
 --->>>> N410 - P - CX - HB - OR - PG - XX - ZX - FL = SAMPLE

## DIMENSIONS



## FEATURES

- Five control inputs for remote START, HOLD, RESUME, keypad lock and external alarm.
- 7 large digits for actual value, flow rate, total and 10 smaller digits for preset value, accumulated total and batch count.
- Selectable on-screen engineering units; volumetric or mass.
- Power requirements: 24V DC / 110 - 230V AC
- Sensor supply: 8.2 / 12 / 24V DC
- No-flow monitoring
- Automatic overrun correct

## SPECIFICATIONS

Display	
<b>Type</b>	High intensity transfective numeric and alphanumeric LCD, UV-resistant. White LED backlight.
<b>Digits</b>	Seven 14mm (0.56") and ten 8mm (0.3") digits. Various symbols and measuring units.
<b>Refresh rate</b>	8 times/sec.
Enclosure	
<b>General</b>	Die-cast aluminum front panel, GRP back enclosure. Polycarbonate window, silicone gasket; UV stabilized and flame retardant material.
<b>Keypad</b>	Sixteen industrial micro-switch keys; UV-resistant silicone keypad; replaceable front
<b>Painting</b>	UV-resistant 2-component industrial painting
<b>Dimension</b>	144 x 72 x 110mm (5.67" x 2.83" x 4.33") – W x H x D
<b>Classification</b>	IP67 (NEMA4X) at the front side IP20 at the back side
<b>Panel cut-out</b>	138 x 67mm (5.43" x 2.64") W x H
<b>Weight</b>	650 gram / 1.7 lbs
Operating Temperature / Humidity	
<b>Temperature</b>	-4° F to +140° F (-20° C to +60° C)
<b>Storage</b>	-40° F to +176° F (-40° C to +80° C)
<b>Humidity</b>	85% non-condensing, relative
Power Requirements	
<b>Type PG</b>	110 - 230V AC. Power consumption max. 10 Watt 24V DC + 10%. Power consumption max. 10 Watt
Sensor Excitation	
<b>Type PG</b>	Terminal 5: 12V DC. Iout max. 30mA Terminal 29: 8.2 / 12 or 24V DC 8.2V DC, Iout max. 20mA 12V DC, Iout max. 30mA 24V DC, Iout max. 75mA
Terminal Connections	
<b>Type</b>	Removable plug-in terminal strip. Wire max. 2.5mm <sup>2</sup>
Data Protection	
<b>Type</b>	EEPROM backup of all settings. Backup of running totals every minute. Data retention at least 10 years
<b>Pass-code</b>	Configuration settings can be pass-code protected
<b>Lock function</b>	Complete keyboard can be locked with external input (e.g. key lock or PLC)
Signal Input (Flowmeter Sensor)	
<b>Type P</b>	NPN, open collector, reed-switch, PNP or active 8 / 12 / 24V DC pulse signals
<b>Frequency</b>	Minimum 0Hz - maximum 5kHz for total and flow rate. Maximum frequency depends on signal type and internal low-pass filter. E.g. reed switch with low-pass filter: max. frequency 120Hz

Signal Input (Flowmeter Sensor)	
<b>K-Factor</b>	0.000010 - 9,999,999 with variable decimal position
<b>Low-pass Filter</b>	Available for all pulse signals
<b>Low Level</b>	0V DC min. to 3V DC max
<b>High Level</b>	8V DC min. to 24V DC max
<b>Load Impedance</b>	4.7kOhm pull-up to +12V DC
<b>Current</b>	2.5mA steady state
External Inputs	
<b>Function</b>	Five remote inputs: START, HOLD, RE-SET, Keypad Lock and External Alarm
<b>Type</b>	Current sinking
<b>Logic</b>	Level sensitive
<b>Response</b>	100ms make and break time
Signal Output (Control, Alarm or Pulse Output)	
<b>Type OR</b>	<ul style="list-style-type: none"> <li>• One batch output (always a mechanical relay).</li> <li>• Two configurable outputs (one mechanical relay and one transistor): batch / two-stage control / any alarm / scaled pulse output</li> </ul>
<b>Pulse Frequency</b>	Max. 500Hz. Pulse length user definable between frequency 1msec up to 10 seconds
<b>Relays</b>	2 isolated, field replaceable, electro-mechanical relays (NO-NC). Max. switching capacity (resistive load): 8A @ 250V AC / 30V DC Max. switching power (resistive load): 2000VA 240W
<b>Transistor</b>	One passive transistor output - not isolated. Load max. 50V DC - 300mA.
Preset / Total	
<b>Digits</b>	7 digits
<b>Units</b>	L, m3, USGAL, IGAL, ft3, bbl, kg, Ton, US Ton, lb
<b>Decimals</b>	0 - 1 - 2 or 3
<b>Note</b>	Total can be reset to zero
Accumulated Total	
<b>Digits</b>	10 digits
<b>Units /Decimals</b>	According to selection for preset
<b>Note</b>	Cannot be reset to zero
Batch Counter	
<b>Digits</b>	10 digits
<b>Note</b>	Counter can be reset to zero
Flow Rate	
<b>Digits</b>	7 digits
<b>Units</b>	L, m3, USGAL, IGAL, ft3, bbl, kg, Ton, US Ton, lb
<b>Decimals</b>	0 - 1 - 2 or 3
<b>Time Units</b>	/sec - /min - /hr - /day

**Service & Warranty:** For technical assistance, warranty replacement or repair contact your **FLOMEC®** or **GPI®** distributor. In North or South America: **888-996-3837 / flomec.net**  
Outside North or South America: **+61 2 9540 4433 / flomec.net**