

GENERAL

Badger's CB 20 batch controller is especially designed for use in concrete plants to batch water into the concrete mix. Unlike ordinary batch controllers, the CB 20 allows the operator to quickly set and run an exact batch, which includes a preset wash amount and valve overrun compensation. It also allows for manual operation to override normal presets.

OPERATION

The CB 20 is designed to work mainly with Badger Meter's Turbo/Butterfly Valve system. The pulse signal coming from the meter's pulse transmitter is scaled to US gallons or other units of measure. Once the Batch and Wash cycle are set by the operator, a START command will energize the valve solenoid, opening the valve. The CB 20 will count down from the batch valve to a number equal to the total desired batch less the wash amount, and then close the valve. The operator presses START again and the wash amount is run, completing the batch.

FEATURES**Safety**

- Presettable batch limit prevents overbatching by not allowing a batch greater than the specified value to be preset.
- Preprogrammed 3 second pulse time fail-safe closes the valve in case of flow signal interruption.
- Permanent display of preset batch alerts operator of gallons remaining and also of batch value.
- English LED annunciators (Batch Ready, Batch, Wash Ready, Wash, and Hold) inform the operator of the batch condition.

Accuracy

- Front panel scaling for fast recalibration of meter and/or for counting in any unit of measure.
- Compensation programming feature provides automatic batch adjustment for valve shutdown overrun.
- Manual override allows operator to manually dispense water or add to the preset batch.

**Ease of Operation**

- Three-step programming for fast batch change.
- Wash cycle needs to be preset only once. On manual operation, the counter reverses and counts up.

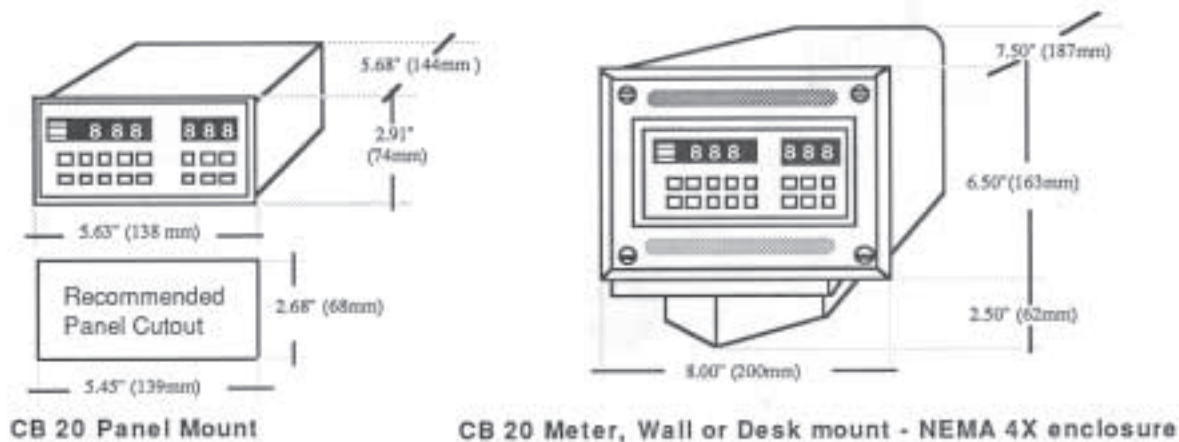
Flexibility

- Two counter displays; one for permanent preset batch display and the other for the batch count.
- Will accept inputs from Hall-effect pickups, open collector transistors or dry switch contacts.
- Additional open collector output for use with external relays.
- Non-volatile memory preserves all programmed information during power failure.
- Extruded aluminum enclosure for ruggedness and protection against radio frequency interference.
- Standard: panel mount Optional: meter, desk or wall mount.

Service

- Front panel or optional enclosure provides NEMA 4X (water tight and corrosion proof) protection.
- Field replaceable output Triac.
- In house stock for prompt replacement.





PRODUCT SPECIFICATIONS

• POWER

AC Input: 117 VAC $\pm$ 10%, 47 to 63 Hz & 220 VAC
DC Output: 12 VDC $\pm$ 5%, 150 ma.
Consumption: 10 VA maximum.

• ENVIRONMENT

Operating: 32° to 130° F (0° C to 55° C)
Storage: 0° to 186° F (-18° to 85° C)
Humidity: 85% non condensing, relative.

• PHYSICAL

Dimensions: See dimensional drawings.
Weight: 2.5 lbs. (1 Kg.)
Materials: Extruded aluminum, thermoplastics.
Front Panel: Polycarbonate, NEMA 4X protection.
Memory: PROM, RAM, Non-volatile NVRAM.
Displays: Two(2) 3 digit, 7 segment, .6" high red LEDs.
Key Pad: Sealed tactile feedback membrane with 10 digit & 6 command keys.

• COUNTERS/ PRESETS/CONTROLS

Batch: Three digit programmable.
Wash: Two digit programmable.
Batch Limit: Three digit programmable.
Scale Factor: Four digit: .0001 to .9999
Compensation: Two digit programmable.
Failsafe Timer: Three seconds.

• INPUTS

Count Inputs (pulse transmitter):
Frequency: DC to 5 kHz (high speed)
 DC to 80 HZ (low speed)
Low Level: 0 VDC min to 2 VDC max.
High Level: 10 VDC min to 20 VDC max.
Impedance: 4.7 K Ω pullup to +12 VDC
VDC Current: 2.5 ma steady state.
Response: 10 μ s min pulse (high speed)
 6 ms min pulse (low speed)

Control Inputs: Remote Start, Reset, Hold, Manual.

Frequency: DC to 20 hz typical
Type: Current sinking
Logic: Edge sensitive (manual: level sensitive)
Low Level: 0 VDC min to 2 VDC max.
High Level: 10 VDC min to 20 VDC max.
Impedance: 4.7 K Ω pullup to +12 VDC
Current: 2.5 ma steady state.
Response: 25 ms make and break time

• SIGNAL OUTPUTS

Triac*: MAC 3040-4 Motorola or equivalent
 Load Voltage: 25 to 140 Volts
 Load Current: 1.5 amps
 * Can be replaced in field

Transistors: One (1) , open collector NPN.
 Load Voltage: 12VDC max.
 Load Current: 50 ma. sink max.
 (1 VDC typical Vce at 50 ma)



Please see our website at
www.badgermeter.com
 for specific contacts.



BadgerMeter, Inc.

6116 East 15th Street, Tulsa, OK 74112
 Telephone: (800) 364-9876 / Fax: (918) 832-9962
www.badgermeter.com