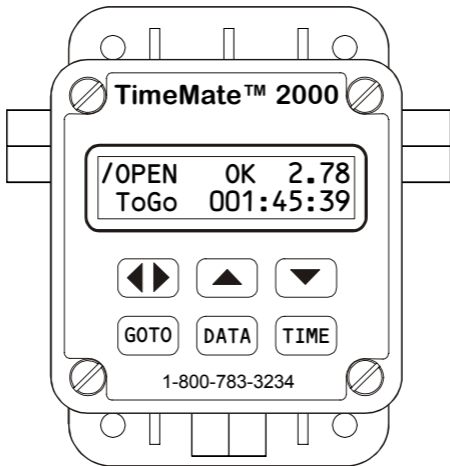


Operator's Guide



SunSmart® Technology with EVS System

Non-Incentive, Intrinsically Safe for
Class I, Group C & D Hazardous Locations

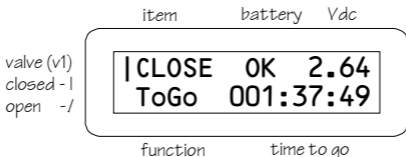
U.S. Patent Nos. 6,194,793 and 6,462,507
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First Time Installation

The TimeMate controller is shipped with the two AA batteries charged and inserted into the battery holder. A “PULL” tab is placed between one of the AA batteries and the battery holder contact to prevent the batteries from draining to a dead battery state. Although, over time, the AA batteries will lose their charge while in storage, sufficient charge will remain in the AA batteries to operate the unit during the first time installation.

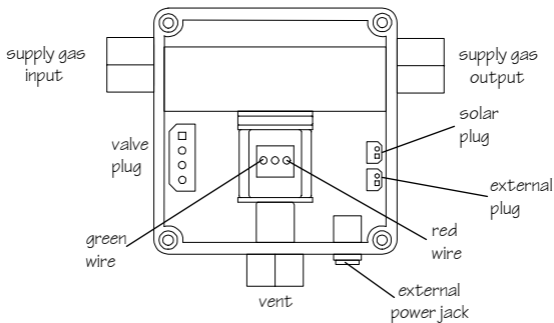
Remove the “PULL” tab for normal operation.

Status Display



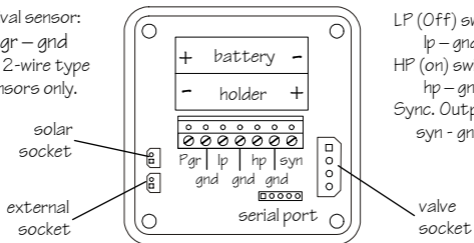
Status display shows the valve status, current operating cycle, remaining cycle time, battery status and battery voltage all in one display.

Valve Assembly



Hook-Up Connections

Arrival sensor:
pgr - gnd
Use 2-wire type
sensors only.



GoTo Key

GOTO

Press to manually shift valve CLOSE or OPEN. A manual override automatically changes the LCD display to the current STATUS and initiates the corresponding timing cycle. The valve (v1) indicator always shows the current closed (|) or open (/) status of the controller's solenoid valve. The valve indicator is the first character on the top LCD display line and is shown in all the controller's key selected displays.

Arrival Log

Plunger arrival time sensing is available in all operating modes. The arrival time log holds plunger arrival times for the last 10 production cycles. A missed or no plunger arrival event is displayed as zero (000:00:00) arrival time.

When viewing well DATA log, press the [◀ ▶] key to page to the arrival time log. Use the DATA key to scroll through the last 10 plunger arrival times.

When viewing the plunger arrival log, press the [▲] or [▼] key to clear the last 10 arrival times to zero.

Time Key

TIME

Press the Time key to enter cycle times.

- 1st ... CLOSE time set.
- 2nd ... OPEN time set.
- 3rd ... FALL time set.
- 4th ... DELAY time set.
- 5th ... BakUp time set.

Set items may change depending upon the options factory programmed for specific user applications.

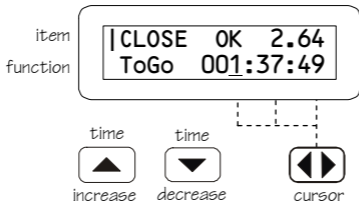
Use [◀ ▶], [▲] and [▼] keys to adjust displayed time.

Setting CLOSE or OPEN time to zero disables timeout and enables SWITCH only cycle control. Setting other functions to zero disables their normal operation.

Time Set Display

Simple time set using cursor, up and down keys.

Cursor selects hrs, min and sec entry.



Data Key

DATA

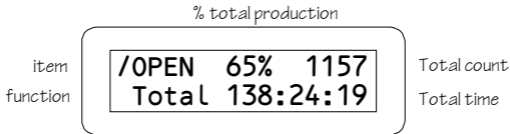
Press to access and scroll through well data log.

- 1st ... Current cycle status.
- 2nd ... CLOSE percent/time/count.
- 3rd ... OPEN percent/time/count.
- 4th ... Plunger time/count


When viewing the well data log, press the [▲] or [▼] key to reset all data in the well data log. The maximum stored time is 999 hours with a 1000 hour roll over to zero time. Maximum count is 65535 with a roll over to zero count.

Multi-Data Display

Total production percentage, time and count on one display.
Press the DATA key to scroll through data log.

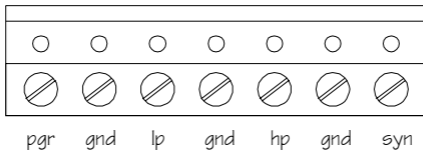


Press  or  key to zero all totalized data.

When viewing, press  to page to plunger arrival log.

Sensor Hook-Up

Removable, 7-terminal screw block assembly.



- pgr – gnd** 2-wire type plunger arrival sensor.
pgr connects to the + or signal wire.
gnd connects to the – or common wire.
- lp – gnd** Low side (CLOSE) pressure switch.
lp connects to the Off or low side wire.
gnd connects to the – or common wire.
- hp – gnd** High side (OPEN) pressure switch.
hp connects to the On or high side wire.
gnd connects to the – or common wire.
- syn – gnd** Synchronization logic output (+5 Vdc).
Synchronizes other controllers with
the OPEN (logic 0) control cycle.

#22 AWG wire is recommended for sensor wire hook up. A complimentary screwdriver is provided for your convenience.

Battery Charging

This controller incorporates a “Bullet Proof” charge regulation system that is both voltage and current regulated. The maximum power allowed for battery charging is 1.2 W. Charging should, therefore, be restricted to wall socket type chargers or 4.5 Vdc to 12 Vdc sources.

It takes about 16 hours to fully charge dead batteries in the controller. It is always a good idea to remove the AA batteries and fully charge them using a commercial AA Nimh or Nicd compatible battery charger for first time use.

The integral two-season solar panel provides optimal charging for the Spring-Summer-Fall and the Winter, low sun angle charging seasons. For Winter charging, place the solar panel in the 45 degree position, facing south. Pull the solar panel up to release the horizontal latch for Winter charging. The Winter charging season starts November 15 and ends March 15. Press down on the solar panel to latch it into the horizontal position for the Spring-Summer-Fall charging season.

The solar panel is an important part of the battery charging system. Best performance is obtained by orienting the solar panel toward the south for optimum winter charging and keeping the solar panel clean and free of obstructions. Most importantly, locate the controller so as to minimize sun shading during the Winter charging season.