

SmartLoad[®] BATCH CONTROLLER

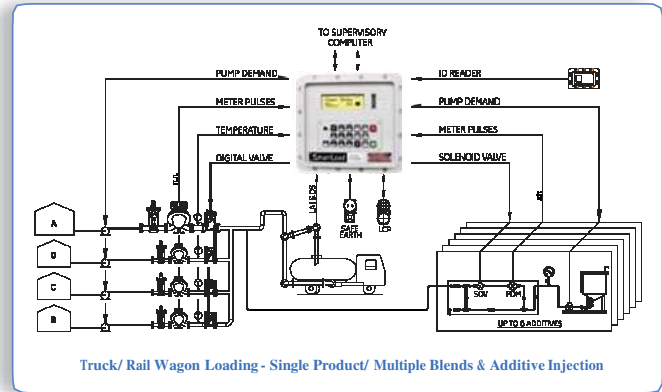
SmartLoad[®] is a batch controller used for liquid product distribution at truck, rail, marine, aviation and pipeline loading and unloading facility. It precisely delivers preset quantity of product blends from tank storage or pipeline into vehicle, Railwagons, Aviation or vessels.

Salient Features

- Incorporates modern technology in a cost-effective, self-contained enclosure providing accuracy and reliability
- Suitable for petroleum, petrochemicals, LNG / LPG, asphalt and specialty chemical applications
- Capable of loading Net LPG quantity deducting vapor quantity
- Controls loading of base or blended product (up to 4 components) with or without additives & dyes (up to 6 additives). Blending can be configured for sequential, in-line proportional or non-proportional mode along with additive injection using various (up to 10) recipes
- User configurable transaction and batch archiving of selected parameters for storage and ticket printing (up to 2000 transactions).
- Configurable data logging / printing options for batch and transaction summary, alarm, meter proving, program mode change, power failure, weights & measures switch status etc.
- User configurable alarm text and alarm actions
- Optional secondary keypad and LCD display available for additional two-side loading or remote control application
- Temperature / Pressure compensation per API IP or linear methods
- Operates as a standalone unit or integrated with any Terminal Automation System
- User-friendly menu driven configuration facility
- Low installation and wiring cost

Technology

- Big hall-effect keys with user-friendly and cellular phone like alpha-numeric keypad for easy operation
- Large easy to read text/graphical display with automatic backlight and contrast adjustment
- Display of preset and loaded quantity with engineering units
- Dynamic, simultaneous display over 200 data items for providing real-time display of flow rate, temperature, blend percentage, additive volumes, pressure, density etc.



- Communication ports – One RS485 and the other port either with RS232 or RS485 for communication with TAS / other smart devices
- Supports open communication protocol – Modbus-RTU
- Directly interfaces with proximity or touch key card readers
- Directly interfaces with flow meters, digital control valves, additive injector panels, safety interlocks and Remote Interaction Terminal (RIT)

Safety and Security

- Supports storage up to 500 proximity cards / touch keys that will be validated during manual mode of operation
- Possible to seal weights & measures switch to restrict the change of meter factors/ k-factor
- Audit logs for change in weights & measures parameters, if weights & measures switch is not locked
- Three levels of passwords:
 - L1 – Super User (Can change all the parameters except W&M parameters if locked)
 - L2 – Intermediate (Can only view all parameters)
 - L3 – Operator (Only acknowledge the alarms)

Accuracy

- Pulse security to IP252/76, Part 13, Section 1, Level B and API Chapter 5, Section 5, Level B security
- 6 points meter factor linearization for increased accuracy

General Specifications

- Power requirements 115 V / 230 V AC +/- 10%, 28 VA
- Five cable entries - bottom entries, forward & rear
- Operating temperatures : - 4°F to 140°F (-20°C to 60°C)
- Storage temperatures : - 4°F to 158°F (-20°C to 70°C)
- Relative humidity : 5 to 95% non-condensing

Enclosure Specifications

- (H) 325mm x (W) 356mm x (D) 355mm (+/- 5 mm)
- Weight approximately 25Kg

Certifications / Approvals

- Area Classification: Ex II 2 GD Ex d IIB T6 Gb, Ex tb IIIB T6 Db IP65
- Approvals : ATEX / IECEx Approved and CE-mark (For Global market), CMRI and CCOE Approved (For India)
 - ATEX approved batch controller: EN 60079-0:2012, EN 60079-1:2007, EN 60079-31:2009 & EN 60529:2001
 - IECEx approved batch controller: IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-31:2008 & IEC 60529:2001
 - PESO approved batch controller: IS/IEC 60079-0:2004, IS/IEC 60079-1:2007 & IS/IEC 60529:2001
- Weights & measures approval: Approved as per OIML R117 by Department of Consumer Affairs, Government of India Mark# IND/09/11/548

Model# SmartLoad

		Ordering Code: X X X X X X X X X X X X
Type	S Single Arm D Dual Arm	
Power Supply Options	0 None 1 115 V AC 2 230 V AC	
Meter Pulse Board Options	0 None 1 One 4 CH Meter Board 2 Two 4 CH Meter Boards	
AC I/O Board Options	0 None 6 One Enhanced Board 3 Lo-, 3 HI-Speed inputs 7 One Enhanced Board 6 HI-Speed inputs 8 Two Enhanced Boards, 6 Lo-Speed inputs, and 6 HI-Speed inputs 9 Two Enhanced Boards, 6 HI-Speed inputs ea. A Two Enhanced Boards (I) 6 Lo-Speed (II)3ea. HI-Lo Speed B Two Enhanced Boards (I) 6 HI-Speed (II)3ea. HI-Lo Speed E One Enhanced Board 6 Lo-Speed inputs G Two Enhanced Boards, 6 Lo-Speed inputs ea. I User defined Boards specific to the Project (Specify if not listed above)	
DC I/O Board Options	0 None 1 6 inputs & 4 outputs	
RTD/ Analog Board Options	0 None 1 2-CH A/D (-40 to +110 deg C) 2 8-CH A/D (-40 to +110 deg C) 3 8-CH Analog (4-20 mA)	
Duart Board Options	0 None 1 Duart Board (I) RS-232, (II) RS-485 2 Duart Board (2) RS-485	
MPMC	0 None	
User Identity	0 None 1 Touchkey 2 Proximity	
Interface Options	0 None 2 Interface card for 2nd Display and External Start/Stop Assembly	
Agency Approvals/ Enclosure Options	0 None 1 PESO (CCOE) Approved Standard Enclosure 2	