



Application Pack CB

Load Computer 1010 CB

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Honeywell Enraf

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Description

The CB Application Pack is a line extension of 1010CJ load computer, handling blending and/or straight product loading and slave/smart additive injector control depending upon the instrument configuration described in the following table. It is flash memory based with field configurable I/Os, full graphics display, and a rugged alphanumeric keyboard incorporating Hall Effect push buttons.

Sales Code	Description	Physical Load Arms				Internal Additives	RIT PANEL	Analog Inputs
		Arm 1	Arm 2	Arm 3	Arm 4			
MODEL A	One arm loading – no blending	Single Product	NA	NA	NA	6	YES	1 Temp Input 1 Density Input 1 Pressure Input
MODEL B	One arm loading with two product ratio blending	2 Product Ratio	NA	NA	NA	4	YES	2 Temp Inputs 2 Density Inputs 2 Pressure Inputs
MODEL C	One arm loading with two product side stream blending	2 Product Side Stream	NA	NA	NA	4	YES	2 Temp Inputs 2 Density Inputs 2 Pressure Inputs
MODEL D	Two single arms – no Blending	Single Product	Single Product	NA	NA	4	YES	2 Temp Inputs 2 Density Inputs 2 Pressure Inputs
MODEL E	Two load arms, one straight loading, one with ratio blending	Single Product	2 Product Ratio	NA	NA	2	YES	3 Temp Inputs 3 Density / Pressure Inputs
MODEL F	Two load arms, one straight loading, one with side stream blending	Single Product	2 Product Side Stream	NA	NA	2	YES	3 Temp Inputs 3 Density / Pressure Inputs
MODEL G	Two load arms, each comprised of 2 product ratio blending	2 Product Ratio	2 Product Ratio	NA	NA	NA	YES	4 Temp Inputs 4 Density / Pressure Inputs
MODEL H	Two load arms, each comprised of 2 product side stream blending	2 Product Side Stream	2 Product Side Stream	NA	NA	NA	YES	4 Temp Inputs 4 Density / Pressure Inputs
MODEL J	Four single arms –no blending	Single Product	Single Product	Single Product	Single Product	NA	NO	4 Temp Inputs 4 Density / Pressure Inputs

Arm Number	Sales code					
	A	B/C	D	E/F	G/H	J
Arm 1	Product 1 (Meter1)	Product 1 (Meter 1) & Product 2 (Meter 2)	Product 1 (Meter 1)	Product 1 (Meter 1)	Product 1 (Meter 1) & Product 2 (Meter 2)	Product 1 (Meter 1)
Arm 2	N/A	N/A	Product 2	Product 2 (Meter 2) & Product 3 (Meter 3)	Product 3 (Meter 3) & Product 4 (Meter 4)	Product 2 (Meter 2)
Arm 3	N/A	N/A	N/A	N/A	N/A	Product 3 (Meter 3)
Arm 4	N/A	N/A	N/A	N/A	N/A	Product 4 (Meter 4)

Features

Side Stream and Ratio Blending	Intelligent/Smart Injector Interface (MP3000, MP6)
Internal/Slave Additive Injector Control	Additive Pulse Output
Dual/Single Pulse Input per channel	Batch Control on Gross/Net
Blend tolerance monitoring	Temperature, Pressure and/ or density correction to API (Refer Sales Code)
API Tables from LPG to Crude Oil	Support GPA Tables TP-27
Non-linearity Correction for flow	Digital Valve Control
Two Stage Valve Control (cannot be used for side stream & ratio blending)	Automated proving mode
Interface with Honeywell Experion TAS	Three isolated serial communication ports
Flash based memory	SLIP+ Protocol
Load Scheduling (Enable/Disable)	Local or Remote Authorization
Stand Alone Operation Mode	Transaction Log (292 transactions stored)
Vehicle authorization (PIN/Touch/RFID/NexWatch)	Personnel authorization (PIN/Touch/RFID/NexWatch)
Personnel & Vehicle ID (2750 each)	Ask Preset Quantity (Enable/Disable)
Illegal Access lockout (Enable/Disable)	Password Access
Programmable Arm Name (Alphanumeric)	Ask Compartment No (Enable/Disable)
Initial Message Programmable	Programmable Product Description (Alphanumeric)
Programmable Units (liter/gallon/kg/lb, m3, t, g)	Programmable Product Name (Alphanumeric)
Programmable Hazardous Material Classification number	RIT Panel interface (except Mode J)
Programmable Permissive Inputs	Programmable Inputs (Pause/Timeout/Terminate/Manager Reset)
Programmable Outputs (Alarms)	Deadman Timer (Enable/Disable)
Overfill/Ground Input/Vapour Rec.	Pump Demand with delay time
Emergency Stop	System Alarm Output
Diagnostics Program	

See the 1010CB Programming and Software Manuals for further details on individual functions.

Hardware Description

The 1010Ax-CB is mounted in a single style A enclosure.

Boards	Power supply board	S800PS4-6
	Output board	S10RA-RRR-I2
	Input board	S10NA-I2
	CPU card	S10CPU-C00-I3.1
	Display board	S810FPLG-18-I3

Max. Number of Arms per 1010A: 4

Products: (A) Crude Oils (API Tables 23, 24, 53, 54, 59 & 60)
(B) Refined (API Tables 23, 24, 53, 54, 59 & 60)
(C) Special (API Tables 24, 54 & 60)
(D) Lube Oils (API Tables 23, 24, 53, 54, 59 & 60)
(E) NGL and LPG (API Tables 23, 24, 53, 54, 59 & 60)
(F) FAME - Fatty Acid Methyl Esters (NEN-EN14214)
Support to GPA TP27 Tables

Temperature Inputs: 4-20 mA or RTD

Pressure Inputs: 4 - 20mA (Availability based on sales code, refer terminal designation)

Density Inputs: 4 - 20 mA (Availability based on sales code, refer terminal designation)

Protocol: SLIP+

Communications: **Port 1:** Isolated RS485/422/232 (standard)

Port 2: Isolated RS485/232 (standard)

Port 3: Isolated RS485/232 (standard)

Ports no longer require jumper configuration: all configuration is obtained through software control via configuration settings.

Part Number: **1010Ax** – CB - abcNe

Where

x designates the sales code(A/B/C/D/E/F/G/H/J)

a designates the authorisation options

b designates the glands and heater options

c designates the power supply input

N is for the graphics display

e designates the metrology approvals

Terminal Designation - Sales Code A

A1	0 Vdc DC Ground	BB5	Common for Relay 15 & 16	CB3	Not used
A2	Supply out (8 - 30 Vdc, 100mA)	BB6	Relay B16 - GP Output #22 (None)	CB4	Not used
A3	Supply out (12 Vdc, 250mA)	BB7	Relay B17- GP Output #23 (System Alarm)	CB5	Not used
A4	Not used	BB8	Common for Relay 17 & 18	CB6	Not used
A5	Not used	BB9	Relay B18 - GP Output #24 (Instrument Alarm)	CB7	Not used
A6	Not used	BB10	Relay B19 - GP Output #25 (RIT Lamp Start Arm 1)	CB8	4-20mA (+) Density Input Product 1
A7	Not used	BB11	Common for Relay 19 & 20	CB9	Not used
A8	Not used	BB12	Relay B20 - GP Output #26 (RIT Lamp Ack Arm 1)	CB10	Opto Output 3 (Add Pulse)
A9	Relay A1 - GP Output #1 (Deadman Indicator)	BB13	Relay B21 - GP Output #27 (RIT Lamp Stop Arm 1)	CB11	Opto Output 4 (Add Pulse)
A10	Relay A2 -GP Output #2 (Deadman Bell)	BB14	Common for Relay 21 & 22	CB12	Opto 0 Volt
A11	Relay A3 - GP Output #3 (Pump Demand Product 1)	BB15	Relay B22 - GP Output #28 (None)	CB13	Signal Ground (Flow)
A12	Relay A4 - GP Output #4 (None)	BB16	Relay B23 - GP Output #29 (Deadman Callout)	CB14	Flow Input Internal Additive 3
A13	Relay A5 - GP Output #5 (None)	BB17	Common for Relay 23 & 24	CB15	Flow Input Internal Additive 4
A14	Relay A6 - GP Output #6 (None)	BB18	Relay B24 - GP Output #30 (None)	CB16	Signal Ground (Flow)
A15	Relay Common for A13 - A16	CA1	RTD 1 Source	CB17	Flow Input Internal Additive 5
A16	Relay B1 - GP Output #7 (DCV Inlet Product 1)	CA2	RTD 1 Sense (+) / 4-20mA (+) Temperature Input Product 1	CB18	Flow Input Internal Additive 6
BA1	Common for Relay 1 & 2	CA3	RTD 1 Sense (-)	CB19	Signal Ground
BA2	Relay B2 - GP Output #8 (DCV Outlet Product 1)	CA4	RTD 1 Sink	CB20	GP Input 9 (Prog. Input #5)
BA3	Relay B3 - GP Output #9 (Internal Add 1 Solenoid O/P)	CA5	Not used	CB21	GP Input 10 (Prog. Input #6)
BA4	Common for Relay 3 & 4	CA6	Not used	CB22	GP Input 11 (RIT Start Arm 1)
BA5	Relay B4 - GP Output #10 (Internal Add 2 Solenoid O/P)	CA7	Not used	CB23	GP Input 12 (RIT Ack Arm 1)
BA6	Relay B5 - GP Output #11 (Internal Add 3 Solenoid O/P)	CA8	4-20mA (+) Pressure Input Product 1	CB24	Signal Ground
BA7	Common for Relay 5 & 6	CA9	Not used	CB25	GP Input 13 (RIT Stop Arm 1)
BA8	Relay B6 - GP Output #12 (Internal Add 4 Solenoid O/P)	CA10	Opto Output 1 (Add Pulse)	CB26	GP Input 14 (None)
BA9	Relay B7 - GP Output #13 (Internal Add 5 Solenoid O/P)	CA11	Opto Output 2 (Add Pulse)	CB27	GP Input 15 (None)
BA10	Common for Relay 7 & 8	CA12	Opto 0 Volt	CB28	GP Input 16 (None)
BA11	Relay B8 - GP Output #14 (Internal Add 6 Solenoid O/P)	CA13	Signal Ground (Flow)/4-20mA (-)	D1	Port 1 Rx RS232
BA12	Relay B9 - GP Output #15 (Pump Demand Additive 1)	CA14	Flow Input Meter 1A Product 1 Pulse	D2	Port 1 Tx RS232
BA13	Common for Relay 9 & 10	CA15	Flow Input Meter 1B Product 1 Pulse	D3	Port 1 0V Common
BA14	Relay B10 - GP Output #16 (Pump Demand Additive 2)	CA16	Signal Ground (Flow)/4-20mA (-)	D4	Port 1 Rx+ RS422
BA15	Relay B11 - GP Output #17 (Pump Demand Additive 3)	CA17	Flow Input Internal Additive 1	D5	Port 1 Rx- RS422
BA16	Common for Relay 11 & 12	CA18	Flow Input Internal Additive 2	D6	Port 1 Tx+ RS422
BA17	Relay B12 - GP Output #18 (Pump Demand Additive 4)	CA19	Signal Ground	D7	Port 1 Tx- RS422
BB1	Relay B13 - GP Output #19 (Pump Demand Additive 5)	CA20	GP Input 1 (Emergency Stop)	D8	Port 2 Rx RS232
BB2	Common for Relay 13 & 14	CA21	GP Input 2 (Overfill Ground)	D9	Port 2 Tx RS232
BB3	Relay B14 - GP Output #20 (Pump Demand Additive 6)	CA22	GP Input 3 (Vapor Recovery)	D10	Port 2 0V Common
BB4	Relay B15 - GP Output #21 (Isolation Valve Product 1)	CA23	GP Input 4 (Prog Permissive)	D11	Port 2 Rx/Tx+ RS485
		CA24	Signal Ground	D12	Port 2 Rx/Tx- RS485
		CA25	GP Input 5 (Prog. Input #1)	D13	Port 3 Rx RS232
		CA26	GP Input 6 (Prog. Input #2)	D14	Port 3 Tx RS232
		CA27	GP Input 7 (Prog. Input #3)	D15	Port 3 0V Common
		CA28	GP Input 8 (Prog. Input #4)	D16	Port 3 Rx/Tx+ RS485
		CB1	Not used	D17	Port 3 Rx/Tx- RS485
		CB2	Not used	D18	Signal Ground
				D19	Signal Ground
				D20	+5V to Reader
				D21	Card Int/Touch Key Data Out
				D22	Card data/Touch Key Data In
				D23	Card Present
				D24	Not used
				D25	Not used
				D26	Not used
				D27	Not used
				D28	Not used
				D29	Not used

Terminal Designation - Sales Code B

A1	0 Vdc DC Ground	BB6	Relay B16 - GP Output #22	CB2	Not used
A2	Supply out (8 - 30 Vdc, 100mA)	BB7	Relay B17- GP Output #23 (System Alarm)	CB3	Not used
A3	Supply out (12 Vdc, 250mA)	BB8	Common for Relay 17 & 18	CB4	Not used
A4	Not used	BB9	Relay B18 - GP Output #24 (Instrument Alarm)	CB5	Not used
A5	Not used	BB10	Relay B19 - GP Output #25 (RIT Lamp Start Arm 1)	CB6	Not used
A6	Not used	BB11	Common for Relay 19 & 20	CB7	Not used
A7	Not used	BB12	Relay B20 - GP Output #26 (RIT Lamp Ack Arm 1)	CB8	4-20mA 7 (+) Density Input Product 1
A8	Not used	BB13	Relay B21 - GP Output #27 (RIT Lamp Stop Arm 1)	CB9	4-20mA 8(+) Density Input Product 2
A9	Relay A1 - GP Output #1 (Deadman Indicator)	BB14	Common for Relay 21 & 22	CB10	Opto Output 3 (Add Pulse)
A10	Relay A2 -GP Output #2 (Deadman Bell)	BB15	Relay B22 - GP Output #28 (None)	CB11	Opto Output 4 (Add Pulse)
A11	Relay A3 - GP Output #3 (Pump Demand Product 1)	BB16	Relay B23 - GP Output #29 (Deadman Callout)	CB12	Opto 0 Volt
A12	Relay A4 - GP Output #4 (Pump Demand Product 2)	BB17	Common for Relay 23 & 24	CB13	Signal Ground (Flow) /4-20mA (-)
A13	Relay A5 - GP Output #5 (None)	BB18	Relay B24 - GP Output #30 (None)	CB14	Flow Input Internal Additive 1
A14	Relay A6 - GP Output #6 (None)	CA1	RTD 1 Source	CB15	Flow Input Internal Additive 2
A15	Relay A5 - GP Output #5 (None)	CA2	RTD 1 Sense (+)/ 4-20mA 1 (+) Temperature Input Product 1	CB16	Signal Ground (Flow) /4-20mA (-)
A16	Relay A6 - GP Output #6 (None)	CA3	RTD 1 Sense (-)	CB17	Flow Input Internal Additive 3
A17	Relay Common for A13 - A16	CA4	RTD 1 & 2 Sink	CB18	Flow Input Internal Additive 4
BA1	Relay B1 - GP Output #7 (DCV Inlet Product 1)	CA5	RTD 2 Source	CB19	Signal Ground
BA2	Common for Relay 1 & 2	CA6	RTD 2 Sense (+) / 4-20mA 2 (+) Temperature Input Product 2	CB20	GP Input 9 (Prog. Input #5)
BA3	Relay B2 - GP Output #8 (DCV Outlet Product 1)	CA7	RTD 2 Sense (-)	CB21	GP Input 10 (Prog. Input #6)
BA4	Relay B3 - GP Output #9 (DCV Inlet Product 2)	CA8	4-20mA 3 (+) Pressure Input Product 1	CB22	GP Input 11 (RIT Start Arm 1)
BA5	Common for Relay 3 & 4	CA9	4-20mA 4 (+) Pressure Input Product 2	CB23	GP Input 12 (RIT Ack Arm 1)
BA6	Relay B4 - GP Output #10 (DCV Outlet Product 2)	CA10	Opto Output 1 (Add Pulse)	CB24	Signal Ground
BA7	Relay B5 - GP Output #11 (Internal Add 1 Solenoid O/P)	CA11	Opto Output 2 (Add Pulse)	CB25	GP Input 13 (RIT Stop Arm 1)
BA8	Common for Relay 5 & 6	CA12	Opto 0 Volt	CB26	GP Input 14 (None)
BA9	Relay B6 - GP Output #12 (Internal Add 2 Solenoid O/P)	CA13	Signal Ground (Flow)/4-20mA (-)	CB27	GP Input 15 (None)
BA10	Relay B7 - GP Output #13 (Internal Add 3 Solenoid O/P)	CA14	Flow Input Meter 1A Product 1 Pulse	CB28	GP Input 16 (None)
BA11	Common for Relay 7 & 8	CA15	Flow Input Meter 1B Product 1 Pulse	D1	Port 1 Rx RS232
BA12	Relay B8 - GP Output #14 (Internal Add 4 Solenoid O/P)	CA16	Signal Ground (Flow)/4-20mA (-)	D2	Port 1 Tx RS232
BA13	Relay B9 - GP Output #15 (Pump Demand Additive 1)	CA17	Flow Input Meter 2A Product 2 Pulse	D3	Port 1 0V Common
BA14	Common for Relay 9 & 10	CA18	Flow Input Meter 2B Product 2 Pulse	D4	Port 1 Rx+ RS422
BA15	Relay B10 - GP Output #16 (Pump Demand Additive 2)	CA19	Signal Ground	D5	Port 1 Rx- RS422
BA16	Relay B11 - GP Output #17 (Pump Demand Additive 3)	CA20	GP Input 1 (Emergency Stop)	D6	Port 1 Tx+ RS422
BA17	Common for Relay 11 & 12	CA21	GP Input 2 (Overfill Ground)	D7	Port 1 Tx- RS422
BA18	Relay B12 - GP Output #18 (Pump Demand Additive 4)	CA22	GP Input 3 (Vapor Recovery)	D8	Port 2 Rx RS232
BB1	Relay B13 - GP Output #19 (Isolation Valve Product 1)	CA23	GP Input 4 (Prog Permissive)	D9	Port 2 Tx RS232
BB2	Common for Relay 13 & 14	CA24	Signal Ground	D10	Port 2 0V Common
BB3	Relay B14 - GP Output #20 (Isolation Valve Product 2)	CA25	GP Input 5 (Prog. Input #1)	D11	Port 2 Rx/Tx+ RS485
BB4	Relay B15 - GP Output #21 (None)	CA26	GP Input 6 (Prog. Input #2)	D12	Port 2 Rx/Tx- RS485
BB5	Common for Relay 15 & 16	CA27	GP Input 7 (Prog. Input #3)	D13	Port 3 Rx RS232
		CA28	GP Input 8 (Prog. Input #4)	D14	Port 3 Tx RS232
		CB1	Not used	D15	Port 3 0V Common
				D16	Port 3 Rx/Tx+ RS485
				D17	Port 3 Rx/Tx- RS485
				D18	Signal Ground
				D19	Signal Ground
				D20	+5V to Reader
				D21	Card Int/Touch Key Data Out
				D22	Card data/Touch Key Data In
				D23	Card Present
				D24	Not used
				D25	4 Not used
				D26	Not used
				D27	Not used
				D28	Not used
				D29	Not used

Terminal Designation - Sales Code C

A1	0 Vdc DC Ground	BB6	Relay B16 - GP Output #22	CB3	Not used
A2	Supply out (8 - 30 Vdc, 100mA)	BB7	Relay B17- GP Output #23 (System Alarm)	CB4	Not used
A3	Supply out (12 Vdc, 250mA)	BB8	Common for Relay 17 & 18	CB5	Not used
A4	Not used	BB9	Relay B18 - GP Output #24 (Instrument Alarm)	CB6	Not used
A5	Not used	BB10	Relay B19 - GP Output #25 (RIT Lamp Start Arm 1)	CB7	Not used
A6	Not used	BB11	Common for Relay 19 & 20	CB8	4-20mA 7 (+) Density Input Product 1
A7	Not used	BB12	Relay B20 - GP Output #26 (RIT Lamp Ack Arm 1)	CB9	4-20mA 8(+) Density Input Product 2
A8	Not used	BB13	Relay B21 - GP Output #27 (RIT Lamp Stop Arm 1)	CB10	Opto Output 3 (Add Pulse)
A9	Relay A1 - GP Output #1 (Deadman Indicator)	BB14	Common for Relay 21 & 22	CB11	Opto Output 4 (Add Pulse)
A10	Relay A2 -GP Output #2 (Deadman Bell)	BB15	Relay B22 - GP Output #28 (None)	CB12	Opto 0 Volt
A11	Relay A3 - GP Output #3 (Pump Demand Product 1)	BB16	Relay B23 - GP Output #29 (Deadman Callout)	CB13	Signal Ground (Flow) /4-20mA (-)
A12	Relay A4 - GP Output #4 (Pump Demand Product 2)	BB17	Common for Relay 23 & 24	CB14	Flow Input Internal Additive 1
A13	Relay A5 - GP Output #5 (None)	BB18	Relay B24 - GP Output #30 (None)	CB15	Flow Input Internal Additive 2
A14	Relay A6 - GP Output #6 (None)	CA1	RTD 1 Source	CB16	Signal Ground (Flow) /4-20mA (-)
A15	Relay Common for A13 - A16	CA2	RTD 1 Sense (+)/ 4-20mA 1 (+) Temperature Input Product 1	CB17	Flow Input Internal Additive 3
BA1	Relay B1 - GP Output #7 (DCV Inlet Product 1)	CA3	RTD 1 Sense (-)	CB18	Flow Input Internal Additive 4
BA2	Common for Relay 1 & 2	CA4	RTD 1 & 2 Sink	CB19	Signal Ground
BA3	Relay B2 - GP Output #8 (DCV Outlet Product 1)	CA5	RTD 2 Source	CB20	GP Input 9 (Programmable In #5)
BA4	Relay B3 - GP Output #9 (DCV Inlet Product 2)	CA6	RTD 2 Sense (+) / 4-20mA 2 (+) Temperature Input Product 2	CB21	GP Input 10 (Programmable In #6)
BA5	Common for Relay 3 & 4	CA7	RTD 2 Sense (-)	CB22	GP Input 11 (RIT Start Arm 1)
BA6	Relay B4 - GP Output #10 (DCV Outlet Product 2)	CA8	4-20mA 3 (+) Pressure Input Product 1	CB23	GP Input 12 (RIT Ack Arm 1)
BA7	Relay B5 - GP Output #11 (Internal Add 1 Solenoid O/P)	CA9	4-20mA 4 (+) Pressure Input Product 2	CB24	Signal Ground
BA8	Common for Relay 5 & 6	CA10	Opto Output 1 (Add Pulse)	CB25	GP Input 13 (RIT Stop Arm 1)
BA9	Relay B6 - GP Output #12 (Internal Add 2 Solenoid O/P)	CA11	Opto Output 2 (Add Pulse)	CB26	GP Input 14 (None)
BA10	Relay B7 - GP Output #13 (Internal Add 3 Solenoid O/P)	CA12	Opto 0 Volt	CB27	GP Input 15 (None)
BA11	Common for Relay 7 & 8	CA13	Signal Ground (Flow)/4-20mA (-)	CB28	GP Input 16 (None)
BA12	Relay B8 - GP Output #14 (Internal Add 4 Solenoid O/P)	CA14	Flow Input Meter 1A Product 1 Pulse	D1	Port 1 Rx RS232
BA13	Relay B9 - GP Output #15 (Pump Demand Additive 1)	CA15	Flow Input Meter 1B Product 1 Pulse	D2	Port 1 Tx RS232
BA14	Common for Relay 9 & 10	CA16	Signal Ground (Flow)/4-20mA (-)	D3	Port 1 0V Common
BA15	Relay B10 - GP Output #16 (Pump Demand Additive 2)	CA17	Flow Input Meter 2A Product 2 Pulse	D4	Port 1 Rx+ RS422
BA16	Relay B11 - GP Output #17 (Pump Demand Additive 3)	CA18	Flow Input Meter 2B Product 2 Pulse	D5	Port 1 Rx- RS422
BA17	Common for Relay 11 & 12	CA19	Signal Ground	D6	Port 1 Tx+ RS422
BA18	Relay B12 - GP Output #18 (Pump Demand Additive 4)	CA20	GP Input 1 (Emergency Stop)	D7	Port 1 Tx- RS422
BB1	Relay B13 - GP Output #19 (Isolation Valve Product 1)	CA21	GP Input 2 (Overfill Ground)	D8	Port 2 Rx RS232
BB2	Common for Relay 13 & 14	CA22	GP Input 3 (Vapor Recovery)	D9	Port 2 Tx RS232
BB3	Relay B14 - GP Output #20 (Isolation Valve Product 2)	CA23	GP Input 4 (Prog Permissive)	D10	Port 2 0V Common
BB4	Relay B15 - GP Output #21 (None)	CA24	Signal Ground	D11	Port 2 Rx/Tx+ RS485
BB5	Common for Relay 15 & 16	CA25	GP Input 5 (Programmable In #1)	D12	Port 2 Rx/Tx- RS485
		CA26	GP Input 6 (Programmable In #2)	D13	Port 3 Rx RS232
		CA27	GP Input 7 (Programmable In #3)	D14	Port 3 Tx RS232
		CA28	GP Input 8 (Programmable In #4)	D15	Port 3 0V Common
		CB1	Not used	D16	Port 3 Rx/Tx+ RS485
		CB2	Not used	D17	Port 3 Rx/Tx- RS485
				D18	Signal Ground
				D19	Signal Ground
				D20	+5V to Reader
				D21	Card Int/Touch Key Data Out
				D22	Card data/Touch Key Data In
				D23	Card Present
				D24	Not used
				D25	Not used
				D26	Not used
				D27	Not used
				D28	Not used
				D29	Not used

Terminal Designation - Sales Code D

A1	0 Vdc DC Ground	BB6	Relay B16 - GP Output #22 (None)	CB1	Not used
A2	Supply out (8 - 30 Vdc, 100mA)	BB7	Relay B17- GP Output #23 (System Alarm)	CB2	Not used
A3	Supply out (12 Vdc, 250mA)	BB8	Common for Relay 17 & 18	CB3	Not used
A4	Not used	BB9	Relay B18 - GP Output #24 (Instrument Alarm)	CB4	Not used
A5	Not used	BB10	Relay B19 - GP Output #25 (RIT Lamp Start Arm 1)	CB5	Not used
A6	Not used	BB11	Common for Relay 19 & 20	CB6	Not used
A7	Not used	BB12	Relay B20 - GP Output #26 (RIT Lamp Ack Arm 1)	CB7	Not used
A8	Not used	BB13	Relay B21 - GP Output #27 (RIT Lamp Stop Arm 1)	CB8	4-20mA 7 (+) Density Input Product 1
A9	Relay A1 - GP Output #1 (Deadman Indicator)	BB14	Common for Relay 21 & 22	CB9	4-20mA 8(+) Density Input Product 2
A10	Relay A2 -GP Output #2 (Deadman Bell)	BB15	Relay B22 - GP Output #28 (RIT Lamp Start Arm 2)	CB10	Opto Output 3 (Add Pulse)
A11	Relay A3 - GP Output #3 (Pump Demand Product 1)	BB16	Relay B23 - GP Output #29 (RIT Lamp Ack Arm 2)	CB11	Opto Output 4 (Add Pulse)
A12	Relay A4 - GP Output #4 (Pump Demand Product 2)	BB17	Common for Relay 23 & 24	CB12	Opto 0 Volt
A13	Relay A5 - GP Output #5 (None)	BB18	Relay B24 - GP Output #30 (RIT Lamp Stop Arm 2)	CB13	Signal Ground (Flow) /4-20mA (-)
A14	Relay A6 - GP Output #6 (None)	CA1	RTD 1 Source	CB14	Flow Input Internal Additive 1
A15	Relay A6 - GP Output #6 (None)	CA2	RTD 1 Sense (+)/ 4-20mA 1 (+) Temperature Input Product 1	CB15	Flow Input Internal Additive 2
A16	Relay Common for A13 - A16	CA3	RTD 1 Sense (-)	CB16	Signal Ground (Flow) /4-20mA (-)
A17	Relay Common for A13 - A16	CA4	RTD 1 & 2 Sink	CB17	Flow Input Internal Additive 3
BA1	Relay B1 - GP Output #7 (DCV Inlet Product 1)	CA5	RTD 2 Source	CB18	Flow Input Internal Additive 4
BA2	Common for Relay 1 & 2	CA6	RTD 2 Sense (+) / 4-20mA 2 (+) Temperature Input Product 2	CB19	Signal Ground
BA3	Relay B2 - GP Output #8 (DCV Outlet Product 1)	CA7	RTD 2 Sense (-)	CB20	GP Input 9 (Prog. Input #5)
BA4	Relay B3 - GP Output #9 (DCV Inlet Product 2)	CA8	4-20mA 3 (+) Pressure Input Product 1	CB21	GP Input 10 (Prog. Input #6)
BA5	Common for Relay 3 & 4	CA9	4-20mA 4 (+) Pressure Input Product 2	CB22	GP Input 11 (RIT Start Arm 1)
BA6	Relay B4 - GP Output #10 (DCV Outlet Product 2)	CA10	Opto Output 1 (Add Pulse)	CB23	GP Input 12 (RIT Ack Arm 1)
BA7	Relay B5 - GP Output #11 (Internal Add 1 Solenoid O/P)	CA11	Opto Output 2 (Add Pulse)	CB24	Signal Ground
BA8	Common for Relay 5 & 6	CA12	Opto 0 Volt	CB25	GP Input 13 (RIT Stop Arm 1)
BA9	Relay B6 - GP Output #12 (Internal Add 2 Solenoid O/P)	CA13	Signal Ground (Flow)/4-20mA (-)	CB26	GP Input 14 (RIT Start Arm 2)
BA10	Relay B7 - GP Output #13 (Internal Add 3 Solenoid O/P)	CA14	Flow Input Meter 1A Product 1 Pulse	CB27	GP Input 15 (RIT Ack Arm 2)
BA11	Common for Relay 7 & 8	CA15	Flow Input Meter 1B Product 1 Pulse	CB28	GP Input 16 (RIT Stop Arm 2)
BA12	Relay B8 - GP Output #14 (Internal Add 4 Solenoid O/P)	CA16	Signal Ground (Flow)/4-20mA (-)	D1	Port 1 Rx RS232
BA13	Relay B9 - GP Output #15 (Pump Demand Additive 1)	CA17	Flow Input Meter 2A Product 2 Pulse	D2	Port 1 Tx RS232
BA14	Common for Relay 9 & 10	CA18	Flow Input Meter 2B Product 2 Pulse	D3	Port 1 0V Common
BA15	Relay B10 - GP Output #16 (Pump Demand Additive 2)	CA19	Signal Ground	D4	Port 1 Rx+ RS422
BA16	Relay B11 - GP Output #17 (Pump Demand Additive 3)	CA20	GP Input 1 (Emergency Stop)	D5	Port 1 Rx- RS422
BA17	Common for Relay 11 & 12	CA21	GP Input 2 (Overfill Ground)	D6	Port 1 Tx+ RS422
BA18	Relay B12 - GP Output #18 (Pump Demand Additive 4)	CA22	GP Input 3 (Vapor Recovery)	D7	Port 1 Tx- RS422
BB1	Relay B13 - GP Output #19 (Isolation Valve Product 1)	CA23	GP Input 4 (Prog Permissive)	D8	Port 2 Rx RS232
BB2	Common for Relay 13 & 14	CA24	Signal Ground	D9	Port 2 Tx RS232
BB3	Relay B14 - GP Output #20 (Isolation Valve Product 2)	CA25	GP Input 5 (Prog. Input #1)	D10	Port 2 0V Common
BB4	Relay B15 - GP Output #21 (None)	CA26	GP Input 6 (Prog. Input #2)	D11	Port 2 Rx/Tx+ RS485
BB5	Common for Relay 15 & 16	CA27	GP Input 7 (Prog. Input #3)	D12	Port 2 Rx/Tx- RS485
		CA28	GP Input 8 (Prog. Input #4)	D13	Port 3 Rx RS232
				D14	Port 3 Tx RS232
				D15	Port 3 0V Common
				D16	Port 3 Rx/Tx+ RS485
				D17	Port 3 Rx/Tx- RS485
				D18	Signal Ground
				D19	Signal Ground
				D20	+5V to Reader
				D21	Card Int/Touch Key Data Out
				D22	Card data/Touch Key Data In
				D23	Card Present
				D24	Not used
				D25	Not used
				D26	Not used
				D27	Not used
				D28	Not used
				D29	Not used

Terminal Designation - Sales Code E

A1	0 Vdc DC Ground	(None)	Temperature Input Product 3
A2	Supply out (8 - 30 Vdc, 100mA)	BB7	Relay B17- GP Output #23
A3	Supply out (12 Vdc, 250mA)		(System Alarm)
A4	Not used	BB8	Common for Relay 17 & 18
A5	Not used	BB9	Relay B18 - GP Output #24
A6	Not used		(Instrument Alarm)
A7	Not used	BB10	Relay B19 - GP Output #25
A8	Not used		(RIT Lamp Start Arm 1)
A9	Relay A1 - GP Output #1	BB11	Common for Relay 19 & 20
A10	(Deadman Indicator)	BB12	Relay B20 - GP Output #26
A11	Relay A2 -GP Output #2		(RIT Lamp Ack Arm 1)
A12	(Deadman Bell)	BB13	Relay B21 - GP Output #27
A13	Relay A3 - GP Output #3		(RIT Lamp Stop Arm 1)
	(Pump Demand Product 1)	BB14	Common for Relay 21 & 22
A14	Relay A4 - GP Output #4	BB15	Relay B22 - GP Output #28
	(Pump Demand Product 2)		(RIT Lamp Start Arm 2)
A15	Relay A5 - GP Output #5	BB16	Relay B23 - GP Output #29
	(Pump Demand Product 3)		(RIT Lamp Ack Arm 2)
A16	Relay A6 - GP Output #6	BB17	Common for Relay 23 & 24
	(None)	BB18	Relay B24 - GP Output #30
A17	Relay Common for A13 - A16		(RIT Lamp Stop Arm 2)
BA1	Relay B1 - GP Output #7	CA1	RTD 1 Source
	(DCV Inlet Product 1)	CA2	RTD 1 Sense (+)/ 4-20mA 1 (+)
BA2	Common for Relay 1 & 2		Temperature Input Product 1
BA3	Relay B2 - GP Output #8	CA3	RTD 1 Sense (-)
	(DCV Outlet Product 1)	CA4	RTD 1 & 2 Sink
BA4	Relay B3 - GP Output #9	CA5	RTD 2 Source
	(DCV Inlet Product 2)	CA6	RTD 2 Sense (+) / 4-20mA 2 (+)
BA5	Common for Relay 3 & 4		Temperature Input Product 2
BA6	Relay B4 - GP Output #10	CA7	RTD 2 Sense (-)
	(DCV Outlet Product 2)	CA8	4-20mA 3 (+)
BA7	Relay B5 - GP Output #11		Pressure/Density Input Product 1
	(DCV Inlet Product 3)	CA9	4-20mA 4 (+)
BA8	Common for Relay 5 & 6		Pressure/Density Input Product 2
BA9	Relay B6 - GP Output #12	CA10	Opto Output 1 (Add Pulse)
	(DCV Outlet Product 3)	CA11	Opto Output 2 (Add Pulse)
BA10	Relay B7 - GP Output #13	CA12	Opto 0 Volt
	(Internal Add 1 Solenoid O/P)	CA13	Signal Ground (Flow)/4-20mA (-)
BA11	Common for Relay 7 & 8	CA14	Flow Input Meter 1A
BA12	Relay B8 - GP Output #14		Product 1 Pulse
	(Internal Add 2 Solenoid O/P)	CA15	Flow Input Meter 1B
BA13	Relay B9 - GP Output #15		Product 1 Pulse
	(Pump Demand Additive 1)	CA16	Signal Ground (Flow)/4-20mA (-)
BA14	Common for Relay 9 & 10	CA17	Flow Input Meter 2A
BA15	Relay B10 - GP Output #16		Product 2 Pulse
	(Pump Demand Additive 2)	CA18	Flow Input Meter 2B
BA16	Relay B11 - GP Output #17		Product 2 Pulse
	(None)	CA19	Signal Ground
BA17	Common for Relay 11 & 12	CA20	GP Input 1 (Emergency Stop)
BA18	Relay B12 - GP Output #18	CA21	GP Input 2 (Overfill Ground)
	(None)	CA22	GP Input 3 (Vapor Recovery)
BB1	Relay B13 - GP Output #19	CA23	GP Input 4 (Prog Permissive)
	(Isolation Valve Product 1)	CA24	Signal Ground
BB2	Common for Relay 13 & 14	CA25	GP Input 5 (Prog. Input #1)
BB3	Relay B14 - GP Output #20	CA26	GP Input 6 (Prog. Input #2)
	(Isolation Valve Product 2)	CA27	GP Input 7 (Prog. Input #3)
BB4	Relay B15 - GP Output #21	CA28	GP Input 8 (Prog. Input #4)
	(Isolation Valve Product 3)		
BB5	Common for Relay 15 & 16	CB1	RTD 3 Source
BB6	Relay B16 - GP Output #22	CB2	RTD 3 Sense (+)/4-20mA 5 (+)
		CB3	RTD 3 Sense (-)
		CB4	RTD 3 Sink
		CB5	Not used
		CB6	Not used
		CB7	Not used
		CB8	4-20mA 7 (+)
			Pressure/ Density Input Product 3
		CB9	Not used
		CB10	Opto Output 3 (Add Pulse)
		CB11	Opto Output 4 (Add Pulse)
		CB12	Opto 0 Volt
		CB13	Signal Ground (Flow) /4-20mA (-)
		CB14	Flow Input Meter 3A
			Product 3 Pulse
		CB15	Flow Input Meter 3B
			Product 3 Pulse
		CB16	Signal Ground (Flow) /4-20mA (-)
		CB17	Flow Input Internal Additive 1
		CB18	Flow Input Internal Additive 2
		CB19	Signal Ground
		CB20	GP Input 9 (Prog. Input #5)
		CB21	GP Input 10 (Prog. Input #6)
		CB22	GP Input 11 (RIT Start Arm 1)
		CB23	GP Input 12 (RIT Ack Arm 1)
		CB24	Signal Ground
		CB25	GP Input 13 (RIT Stop Arm 1)
		CB26	GP Input 14 (RIT Start Arm 2)
		CB27	GP Input 15 (RIT Ack Arm 2)
		CB28	GP Input 16 (RIT Stop Arm 2)
		D1	Port 1 Rx RS232
		D2	Port 1 Tx RS232
		D3	Port 1 0V Common
		D4	Port 1 Rx+ RS422
		D5	Port 1 Rx- RS422
		D6	Port 1 Tx+ RS422
		D7	Port 1 Tx- RS422
		D8	Port 2 Rx RS232
		D9	Port 2 Tx RS232
		D10	Port 2 0V Common
		D11	Port 2 Rx/Tx+ RS485
		D12	Port 2 Rx/Tx- RS485
		D13	Port 3 Rx RS232
		D14	Port 3 Tx RS232
		D15	Port 3 0V Common
		D16	Port 3 Rx/Tx+ RS485
		D17	Port 3 Rx/Tx- RS485
		D18	Signal Ground
		D19	Signal Ground
		D20	+5V to Reader
		D21	Card Int/Touch Key Data Out
		D22	Card data/Touch Key Data In
		D23	Card Present
		D24	Not used
		D25	Not used
		D26	Not used
		D27	Not used
		D28	Not used
		D29	Not used

Terminal Designation - Sales Code F

A1	0 Vdc DC Ground	(None)	Temperature Input Product 3
A2	Supply out (8 - 30 Vdc, 100mA)	BB7	Relay B17- GP Output #23
A3	Supply out (12 Vdc, 250mA)		(System Alarm)
A4	Not used	BB8	Common for Relay 17 & 18
A5	Not used	BB9	Relay B18 - GP Output #24
A6	Not used		(Instrument Alarm)
A7	Not used	BB10	Relay B19 - GP Output #25
A8	Not used		(RIT Lamp Start Arm 1)
A9	Relay A1 - GP Output #1	BB11	Common for Relay 19 & 20
A10	(Deadman Indicator)	BB12	Relay B20 - GP Output #26
A11	Relay A2 -GP Output #2		(RIT Lamp Ack Arm 1)
A12	(Deadman Bell)	BB13	Relay B21 - GP Output #27
A13	Relay A3 - GP Output #3		(RIT Lamp Stop Arm 1)
	(Pump Demand Product 1)	BB14	Common for Relay 21 & 22
A14	Relay A4 - GP Output #4	BB15	Relay B22 - GP Output #28
	(Pump Demand Product 2)		(RIT Lamp Start Arm 2)
A15	Relay A5 - GP Output #5	BB16	Relay B23 - GP Output #29
	(Pump Demand Product 3)		(RIT Lamp Ack Arm 2)
A16	Relay A6 - GP Output #6	BB17	Common for Relay 23 & 24
	(None)	BB18	Relay B24 - GP Output #30
A17	Relay Common for A13 - A16		(RIT Lamp Stop Arm 2)
BA1	Relay B1 - GP Output #7	CA1	RTD 1 Source
	(DCV Inlet Product 1)	CA2	RTD 1 Sense (+)/ 4-20mA 1 (+)
BA2	Common for Relay 1 & 2		Temperature Input Product 1
BA3	Relay B2 - GP Output #8	CA3	RTD 1 Sense (-)
	(DCV Outlet Product 1)	CA4	RTD 1 & 2 Sink
BA4	Relay B3 - GP Output #9	CA5	RTD 2 Source
	(DCV Inlet Product 2)	CA6	RTD 2 Sense (+) / 4-20mA 2 (+)
BA5	Common for Relay 3 & 4		Temperature Input Product 2
BA6	Relay B4 - GP Output #10	CA7	RTD 2 Sense (-)
	(DCV Outlet Product 2)	CA8	4-20mA 3 (+)
BA7	Relay B5 - GP Output #11		Pressure/Density Input Product 1
	(DCV Inlet Product 3)	CA9	4-20mA 4 (+)
BA8	Common for Relay 5 & 6		Pressure/Density Input Product 2
BA9	Relay B6 - GP Output #12	CA10	Opto Output 1 (Add Pulse)
	(DCV Outlet Product 3)	CA11	Opto Output 2 (Add Pulse)
BA10	Relay B7 - GP Output #13	CA12	Opto 0 Volt
	(Internal Add 1 Solenoid O/P)	CA13	Signal Ground (Flow)/4-20mA (-)
BA11	Common for Relay 7 & 8	CA14	Flow Input Meter 1A
BA12	Relay B8 - GP Output #14		Product 1 Pulse
	(Internal Add 2 Solenoid O/P)	CA15	Flow Input Meter 1B
BA13	Relay B9 - GP Output #15		Product 1 Pulse
	(Pump Demand Additive 1)	CA16	Signal Ground (Flow)/4-20mA (-)
BA14	Common for Relay 9 & 10	CA17	Flow Input Meter 2A
BA15	Relay B10 - GP Output #16		Product 2 Pulse
	(Pump Demand Additive 2)	CA18	Flow Input Meter 2B
BA16	Relay B11 - GP Output #17		Product 2 Pulse
	(None)	CA19	Signal Ground
BA17	Common for Relay 11 & 12	CA20	GP Input 1 (Emergency Stop)
BA18	Relay B12 - GP Output #18	CA21	GP Input 2 (Overfill Ground)
	(None)	CA22	GP Input 3 (Vapor Recovery)
BB1	Relay B13 - GP Output #19	CA23	GP Input 4 (Prog Permissive)
	(Isolation Valve Product 1)	CA24	Signal Ground
BB2	Common for Relay 13 & 14	CA25	GP Input 5 (Prog. Input #1)
BB3	Relay B14 - GP Output #20	CA26	GP Input 6 (Prog. Input #2)
	(Isolation Valve Product 2)	CA27	GP Input 7 (Prog. Input #3)
BB4	Relay B15 - GP Output #21	CA28	GP Input 8 (Prog. Input #4)
	(Isolation Valve Product 3)		
BB5	Common for Relay 15 & 16	CB1	RTD 3 Source
BB6	Relay B16 - GP Output #22	CB2	RTD 3 Sense (+)/4-20mA 5 (+)
		CB3	RTD 3 Sense (-)
		CB4	RTD 3 Sink
		CB5	Not used
		CB6	Not used
		CB7	Not used
		CB8	4-20mA 7 (+)
			Pressure/ Density Input Product 3
		CB9	Not used
		CB10	Opto Output 3 (Add Pulse)
		CB11	Opto Output 4 (Add Pulse)
		CB12	Opto 0 Volt
		CB13	Signal Ground (Flow) /4-20mA (-)
		CB14	Flow Input Meter 3A
			Product 3 Pulse
		CB15	Flow Input Meter 3B
			Product 3 Pulse
		CB16	Signal Ground (Flow) /4-20mA (-)
		CB17	Flow Input Internal Additive 1
		CB18	Flow Input Internal Additive 2
		CB19	Signal Ground
		CB20	GP Input 9 (Prog. Input #5)
		CB21	GP Input 10 (Prog. Input #6)
		CB22	GP Input 11 (RIT Start Arm 1)
		CB23	GP Input 12 (RIT Ack Arm 1)
		CB24	Signal Ground
		CB25	GP Input 13 (RIT Stop Arm 1)
		CB26	GP Input 14 (RIT Start Arm 2)
		CB27	GP Input 15 (RIT Ack Arm 2)
		CB28	GP Input 16 (RIT Stop Arm 2)
		D1	Port 1 Rx RS232
		D2	Port 1 Tx RS232
		D3	Port 1 0V Common
		D4	Port 1 Rx+ RS422
		D5	Port 1 Rx- RS422
		D6	Port 1 Tx+ RS422
		D7	Port 1 Tx- RS422
		D8	Port 2 Rx RS232
		D9	Port 2 Tx RS232
		D10	Port 2 0V Common
		D11	Port 2 Rx/Tx+ RS485
		D12	Port 2 Rx/Tx- RS485
		D13	Port 3 Rx RS232
		D14	Port 3 Tx RS232
		D15	Port 3 0V Common
		D16	Port 3 Rx/Tx+ RS485
		D17	Port 3 Rx/Tx- RS485
		D18	Signal Ground
		D19	Signal Ground
		D20	+5V to Reader
		D21	Card Int/Touch Key Data Out
		D22	Card data/Touch Key Data In
		D23	Card Present
		D24	Not used
		D25	Not used
		D26	Not used
		D27	Not used
		D28	Not used
		D29	Not used

Terminal Designation - Sales Code G

A1	0 Vdc DC Ground	BB7	Relay B17- GP Output #23 (System Alarm)	CB5	RTD 4 Source
A2	Supply out (8 - 30 Vdc, 100mA)	BB8	Common for Relay 17 & 18	CB6	RTD 4 Sense (+) / 4-20mA 6 (+) Temperature Input Product 4
A3	Supply out (12 Vdc, 250mA)	BB9	Relay B18 - GP Output #24 (Instrument Alarm)	CB7	RTD 4 Sense (-)
A4	Not used	BB10	Relay B19 - GP Output #25 (RIT Lamp Start Arm 1)	CB8	4-20mA 7 (+) Pressure/ Density Input Product 3
A5	Not used	BB11	Common for Relay 19 & 20	CB9	4-20mA 8 (+) Pressure/ Density Input Product 4
A6	Not used	BB12	Relay B20 - GP Output #26 (RIT Lamp Ack Arm 1)	CB10	Opto Output 3 (Add Pulse)
A7	Not used	BB13	Relay B21 - GP Output #27 (RIT Lamp Stop Arm 1)	CB11	Opto Output 4 (Add Pulse)
A8	Not used	BB14	Common for Relay 21 & 22	CB12	Opto 0 Volt
A9	Relay A1 - GP Output #1 (Deadman Indicator)	BB15	Relay B22 - GP Output #28 (RIT Lamp Start Arm 2)	CB13	Signal Ground (Flow) /4-20mA (-)
A10	Relay A2 -GP Output #2 (Deadman Bell)	BB16	Relay B23 - GP Output #29 (RIT Lamp Ack Arm 2)	CB14	Flow Input Meter 3A Product 3 Pulse
A11	Relay A3 - GP Output #3 (Pump Demand Product 1)	BB17	Common for Relay 23 & 24	CB15	Flow Input Meter 3B Product 3 Pulse
A12	Relay A4 - GP Output #4 (Pump Demand Product 2)	BB18	Relay B24 - GP Output #30 (RIT Lamp Stop Arm 2)	CB16	Signal Ground (Flow) /4-20mA (-)
A13	Relay A5 - GP Output #5 (Pump Demand Product 3)	CA1	RTD 1 Source	CB17	Flow Input Meter 4A Product 4 Pulse
A14	Relay A6 - GP Output #6 (Pump Demand Product 4)	CA2	RTD 1 Sense (+)/ 4-20mA 1 (+) Temperature Input Product 1	CB18	Flow Input Meter 4B Product 4 Pulse
A15	Relay A5 - GP Output #5 (Pump Demand Product 3)	CA3	RTD 1 Sense (-)	CB19	Signal Ground
A16	Relay A6 - GP Output #6 (Pump Demand Product 4)	CA4	RTD 1 & 2 Sink	CB20	GP Input 9 (Prog. Input #5)
A17	Relay Common for A13 - A16	CA5	RTD 2 Source	CB21	GP Input 10 (Prog. Input #6)
BA1	Relay B1 - GP Output #7 (DCV Inlet Product 1)	CA6	RTD 2 Sense (+) / 4-20mA 2 (+) Temperature Input Product 2	CB22	GP Input 11 (RIT Start Arm 1)
BA2	Common for Relay 1 & 2	CA7	RTD 2 Sense (-)	CB23	GP Input 12 (RIT Ack Arm 1)
BA3	Relay B2 - GP Output #8 (DCV Outlet Product 1)	CA8	4-20mA 3 (+) Pressure/Density Input Product 1	CB24	Signal Ground
BA4	Relay B3 - GP Output #9 (DCV Inlet Product 2)	CA9	4-20mA 4 (+) Pressure/Density Input Product 2	CB25	GP Input 13 (RIT Stop Arm 1)
BA5	Common for Relay 3 & 4	CA10	Opto Output 1 (Add Pulse)	CB26	GP Input 14 (RIT Start Arm 2)
BA6	Relay B4 - GP Output #10 (DCV Outlet Product 2)	CA11	Opto Output 2 (Add Pulse)	CB27	GP Input 15 (RIT Ack Arm 2)
BA7	Relay B5 - GP Output #11 (DCV Inlet Product 3)	CA12	Opto 0 Volt	CB28	GP Input 16 (RIT Stop Arm 2)
BA8	Common for Relay 5 & 6	CA13	Signal Ground (Flow)/4-20mA (-)	D1	Port 1 Rx RS232
BA9	Relay B6 - GP Output #12 (DCV Outlet Product 3)	CA14	Flow Input Meter 1A Product 1 Pulse	D2	Port 1 Tx RS232
BA10	Relay B7 - GP Output #13 (DCV Inlet Product 4)	CA15	Flow Input Meter 1B Product 1 Pulse	D3	Port 1 0V Common
BA11	Common for Relay 7 & 8	CA16	Signal Ground (Flow)/4-20mA (-)	D4	Port 1 Rx+ RS422
BA12	Relay B8 - GP Output #14 (DCV Outlet Product 4)	CA17	Flow Input Meter 2A Product 2 Pulse	D5	Port 1 Rx- RS422
BA13	Relay B9 - GP Output #15 (None)	CA18	Flow Input Meter 2B Product 2 Pulse	D6	Port 1 Tx+ RS422
BA14	Common for Relay 9 & 10	CA19	Signal Ground	D7	Port 1 Tx- RS422
BA15	Relay B10 - GP Output #16 (None)	CA20	GP Input 1 (Emergency Stop)	D8	Port 2 Rx RS232
BA16	Relay B11 - GP Output #17 (None)	CA21	GP Input 2 (Overfill Ground)	D9	Port 2 Tx RS232
BA17	Common for Relay 11 & 12	CA22	GP Input 3 (Vapor Recovery)	D10	Port 2 0V Common
BA18	Relay B12 - GP Output #18 (None)	CA23	GP Input 4 (Prog Permissive)	D11	Port 2 Rx/Tx+ RS485
BB1	Relay B13 - GP Output #19 (Isolation Valve Product 1)	CA24	Signal Ground	D12	Port 2 Rx/Tx- RS485
BB2	Common for Relay 13 & 14	CA25	GP Input 5 (Prog. Input #1)	D13	Port 3 Rx RS232
BB3	Relay B14 - GP Output #20 (Isolation Valve Product 2)	CA26	GP Input 6 (Prog. Input #2)	D14	Port 3 Tx RS232
BB4	Relay B15 - GP Output #21 (Isolation Valve Product 3)	CA27	GP Input 7 (Prog. Input #3)	D15	Port 3 0V Common
BB5	Common for Relay 15 & 16	CA28	GP Input 8 (Prog. Input #4)	D16	Port 3 Rx/Tx+ RS485
BB6	Relay B16 - GP Output #22 (Isolation Valve Product 4)	CB1	RTD 3 Source	D17	Port 3 Rx/Tx- RS485
		CB2	RTD 3 Sense (+) / 4-20mA 5 (+) Temperature Input Product 3	D18	Signal Ground
		CB3	RTD 3 Sense (-)	D19	Signal Ground
		CB4	RTD 3 Sink	D20	+5V to Reader
				D21	Card Int/Touch Key Data Out
				D22	Card data/Touch Key Data In
				D23	Card Present
				D24	Not used
				D25	Not used
				D26	Not used
				D27	Not used
				D28	Not used
				D29	Not used

Terminal Designation - Sales Code H

A1	0 Vdc DC Ground	BB7	Relay B17- GP Output #23 (System Alarm)	CB4	RTD 3 Sink
A2	Supply out (8 - 30 Vdc, 100mA)	BB8	Common for Relay 17 & 18	CB5	RTD 4 Source
A3	Supply out (12 Vdc, 250mA)	BB9	Relay B18 - GP Output #24 (Instrument Alarm)	CB6	RTD 4 Sense (+)/ 4-20mA 6 (+) Temperature Input Product 4
A4	Not used	BB10	Relay B19 - GP Output #25 (RIT Lamp Start Arm 1)	CB7	RTD 4 Sense (-)
A5	Not used	BB11	Common for Relay 19 & 20	CB8	4-20mA 7 (+) Pressure/ Density Input Product 3
A6	Not used	BB12	Relay B20 - GP Output #26 (RIT Lamp Ack Arm 1)	CB9	4-20mA 8 (+) Pressure/ Density Input Product 4
A7	Not used	BB13	Relay B21 - GP Output #27 (RIT Lamp Stop Arm 1)	CB10	Opto Output 3 (Add Pulse)
A8	Not used	BB14	Common for Relay 21 & 22	CB11	Opto Output 4 (Add Pulse)
A9	Relay A1 - GP Output #1	BB15	Relay B22 - GP Output #28 (RIT Lamp Start Arm 2)	CB12	Opto 0 Volt
A10	(Deadman Indicator)	BB16	Relay B23 - GP Output #29 (RIT Lamp Ack Arm 2)	CB13	Signal Ground (Flow) /4-20mA (-)
A11	Relay A2 -GP Output #2	BB17	Common for Relay 23 & 24	CB14	Flow Input Meter 3A Product 3 Pulse
A12	(Deadman Bell)	BB18	Relay B24 - GP Output #30 (RIT Lamp Stop Arm 2)	CB15	Flow Input Meter 3B Product 3 Pulse
A13	Relay A3 - GP Output #3 (Pump Demand Product 1)	CA1	RTD 1 Source	CB16	Signal Ground (Flow) /4-20mA (-)
A14	Relay A4 - GP Output #4 (Pump Demand Product 2)	CA2	RTD 1 Sense (+)/4-20mA 1 (+) Temperature Input Product 1	CB17	Flow Input Meter 4A Product 4 Pulse
A15	Relay A5 - GP Output #5 (Pump Demand Product 3)	CA3	RTD 1 Sense (-)	CB18	Flow Input Meter 4B Product 4 Pulse
A16	Relay A6 - GP Output #6 (Pump Demand Product 4)	CA4	RTD 1 & 2 Sink	CB19	Signal Ground
A17	Relay Common for A13 - A16	CA5	RTD 2 Source	CB20	GP Input 9 (Prog. Input #5)
BA1	Relay B1 - GP Output #7 (DCV Inlet Product 1)	CA6	RTD 2 Sense (+) /4-20mA 2 (+) Temperature Input Product 2	CB21	GP Input 10 (Prog. Input #6)
BA2	Common for Relay 1 & 2	CA7	RTD 2 Sense (-)	CB22	GP Input 11 (RIT Start Arm 1)
BA3	Relay B2 - GP Output #8 (DCV Outlet Product 1)	CA8	4-20mA 3 (+) Pressure/Density Input Product 1	CB23	GP Input 12 (RIT Ack Arm 1)
BA4	Relay B3 - GP Output #9 (DCV Inlet Product 2)	CA9	4-20mA 4 (+) Pressure/Density Input Product 2	CB24	Signal Ground
BA5	Common for Relay 3 & 4	CA10	Opto Output 1 (Add Pulse)	CB25	GP Input 13 (RIT Stop Arm 1)
BA6	Relay B4 - GP Output #10 (DCV Outlet Product 2)	CA11	Opto Output 2 (Add Pulse)	CB26	GP Input 14 (RIT Start Arm 2)
BA7	Relay B5 - GP Output #11 (DCV Inlet Product 3)	CA12	Opto 0 Volt	CB27	GP Input 15 (RIT Ack Arm 2)
BA8	Common for Relay 5 & 6	CA13	Signal Ground (Flow)/4-20mA (-)	CB28	GP Input 16 (RIT Stop Arm 2)
BA9	Relay B6 - GP Output #12 (DCV Outlet Product 3)	CA14	Flow Input Meter 1A Product 1 Pulse	D1	Port 1 Rx RS232
BA10	Relay B7 - GP Output #13 (DCV Inlet Product 4)	CA15	Flow Input Meter 1B Product 1 Pulse	D2	Port 1 Tx RS232
BA11	Common for Relay 7 & 8	CA16	Signal Ground (Flow)/4-20mA (-)	D3	Port 1 0V Common
BA12	Relay B8 - GP Output #14 (DCV Outlet Product 4)	CA17	Flow Input Meter 2A Product 2 Pulse	D4	Port 1 Rx+ RS422
BA13	Relay B9 - GP Output #15 (None)	CA18	Flow Input Meter 2B Product 2 Pulse	D5	Port 1 Rx- RS422
BA14	Common for Relay 9 & 10	CA19	Signal Ground	D6	Port 1 Tx+ RS422
BA15	Relay B10 - GP Output #16 (None)	CA20	GP Input 1 (Emergency Stop)	D7	Port 1 Tx- RS422
BA16	Relay B11 - GP Output #17 (None)	CA21	GP Input 2 (Overfill Ground)	D8	Port 2 Rx RS232
BA17	Common for Relay 11 & 12	CA22	GP Input 3 (Vapor Recovery)	D9	Port 2 Tx RS232
BA18	Relay B12 - GP Output #18 (None)	CA23	GP Input 4 (Prog Permissive)	D10	Port 2 0V Common
BB1	Relay B13 - GP Output #19 (Isolation Valve Product 1)	CA24	Signal Ground	D11	Port 2 Rx/Tx+ RS485
BB2	Common for Relay 13 & 14	CA25	GP Input 5 (Prog. Input #1)	D12	Port 2 Rx/Tx- RS485
BB3	Relay B14 - GP Output #20 (Isolation Valve Product 2)	CA26	GP Input 6 (Prog. Input #2)	D13	Port 3 Rx RS232
BB4	Relay B15 - GP Output #21 (Isolation Valve Product 3)	CA27	GP Input 7 (Prog. Input #3)	D14	Port 3 Tx RS232
BB5	Common for Relay 15 & 16	CA28	GP Input 8 (Prog. Input #4)	D15	Port 3 0V Common
BB6	Relay B16 - GP Output #22 (Isolation Valve Product 4)	CB1	RTD 3 Source	D16	Port 3 Rx/Tx+ RS485
		CB2	RTD 3 Sense (+)/ 4-20mA 5 (+) Temperature Input Product 3	D17	Port 3 Rx/Tx- RS485
		CB3	RTD 3 Sense (-)	D18	Signal Ground
				D19	Signal Ground
				D20	+5V to Reader
				D21	Card Int/Touch Key Data Out
				D22	Card data/Touch Key Data In
				D23	Card Present
				D24	Not used
				D25	Not used
				D26	Not used
				D27	Not used
				D28	Not used
				D29	Not used

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A1	0 Vdc DC Ground	BB7	Relay B17- GP Output #23 (System Alarm)	CB4	RTD 3 Sink
A2	Supply out (8 - 30 Vdc, 100mA)	BB8	Common for Relay 17 & 18	CB5	RTD 4 Source
A3	Supply out (12 Vdc, 250mA)	BB9	Relay B18 - GP Output #24 (Instrument Alarm)	CB6	RTD 4 Sense (+) / 4-20mA 6 (+) Temperature Input Product 4
A4	Not used	BB10	Relay B19 - GP Output #25 (None)	CB7	RTD 4 Sense (-)
A5	Not used	BB11	Common for Relay 19 & 20	CB8	4-20mA 7 (+) Pressure/ Density Input Product 3
A6	Not used	BB12	Relay B20 - GP Output #26 (None)	CB9	4-20mA 8 (+) Pressure/ Density Input Product 4
A7	Not used	BB13	Relay B21 - GP Output #27 (None)	CB10	Opto Output 3 (Add Pulse)
A8	Not used	BB14	Common for Relay 21 & 22	CB11	Opto Output 4 (Add Pulse)
A9	Relay A1 - GP Output #1 (Deadman Indicator)	BB15	Relay B22 - GP Output #28 (None)	CB12	Opto 0 Volt
A10	Relay A2 -GP Output #2 (Deadman Bell)	BB16	Relay B23 - GP Output #29 (Deadman Callout)	CB13	Signal Ground (Flow) /4-20mA (-)
A11	Relay A3 - GP Output #3 (Pump Demand Product 1)	BB17	Common for Relay 23 & 24	CB14	Flow Input Meter 3A Product 3 Pulse
A12	Relay A4 - GP Output #4 (Pump Demand Product 2)	BB18	Relay B24 - GP Output #30 (None)	CB15	Flow Input Meter 3B Product 3 Pulse
A13	Relay A5 - GP Output #5 (Pump Demand Product 3)	CA1	RTD 1 Source	CB16	Signal Ground (Flow) /4-20mA (-)
A14	Relay A6 - GP Output #6 (Pump Demand Product 4)	CA2	RTD 1 Sense (+)/ 4-20mA 1 (+) Temperature Input Product 1	CB17	Flow Input Meter 4A Product 4 Pulse
A15	Relay A7 - GP Output #7 (DCV Inlet Product 1)	CA3	RTD 1 Sense (-)	CB18	Flow Input Meter 4B Product 4 Pulse
A16	Relay A8 - GP Output #8 (DCV Outlet Product 1)	CA4	RTD 1 & 2 Sink	CB19	Signal Ground
A17	Relay A9 - GP Output #9 (DCV Inlet Product 2)	CA5	RTD 2 Source	CB20	GP Input 9 (Prog. Input #5)
BA1	Relay B1 - GP Output #7 (DCV Inlet Product 1)	CA6	RTD 2 Sense (+) /4-20mA 2 (+) Temperature Input Product 2	CB21	GP Input 10 (Prog. Input #6)
BA2	Common for Relay 1 & 2	CA7	RTD 2 Sense (-)	CB22	GP Input 11 (None)
BA3	Relay B2 - GP Output #8 (DCV Outlet Product 1)	CA8	4-20mA 3 (+) Pressure/Density Input Product 1	CB23	GP Input 12 (None)
BA4	Relay B3 - GP Output #9 (DCV Inlet Product 2)	CA9	4-20mA 4 (+) Pressure/Density Input Product 2	CB24	Signal Ground
BA5	Common for Relay 3 & 4	CA10	Opto Output 1 (Add Pulse)	CB25	GP Input 13 (None)
BA6	Relay B4 - GP Output #10 (DCV Outlet Product 2)	CA11	Opto Output 2 (Add Pulse)	CB26	GP Input 14 (None)
BA7	Relay B5 - GP Output #11 (DCV Inlet Product 3)	CA12	Opto 0 Volt	CB27	GP Input 15 (None)
BA8	Common for Relay 5 & 6	CA13	Signal Ground (Flow)/4-20mA (-)	CB28	GP Input 16 (None)
BA9	Relay B6 - GP Output #12 (DCV Outlet Product 3)	CA14	Flow Input Meter 1A Product 1 Pulse	D1	Port 1 Rx RS232
BA10	Relay B7 - GP Output #13 (DCV Inlet Product 4)	CA15	Flow Input Meter 1B Product 1 Pulse	D2	Port 1 Tx RS232
BA11	Common for Relay 7 & 8	CA16	Signal Ground (Flow)/4-20mA (-)	D3	Port 1 0V Common
BA12	Relay B8 - GP Output #14 (DCV Outlet Product 4)	CA17	Flow Input Meter 2A Product 2 Pulse	D4	Port 1 Rx+ RS422
BA13	Relay B9 - GP Output #15 (External Additive Pulse Arm 1)	CA18	Flow Input Meter 2B Product 2 Pulse	D5	Port 1 Rx- RS422
BA14	Common for Relay 9 & 10	CA19	Signal Ground	D6	Port 1 Tx+ RS422
BA15	Relay B10 - GP Output #16 (External Additive Pulse Arm 2)	CA20	GP Input 1 (Emergency Stop)	D7	Port 1 Tx- RS422
BA16	Relay B11 - GP Output #17 (External Additive Pulse Arm 3)	CA21	GP Input 2 (Overfill Ground)	D8	Port 2 Rx RS232
BA17	Common for Relay 11 & 12	CA22	GP Input 3 (Vapor Recovery)	D9	Port 2 Tx RS232
BA18	Relay B12 - GP Output #18 (External Additive Pulse Arm 4)	CA23	GP Input 4 (Prog Permissive)	D10	Port 2 0V Common
BB1	Relay B13 - GP Output #19 (Isolation Valve Product 1)	CA24	Signal Ground	D11	Port 2 Rx/Tx+ RS485
BB2	Common for Relay 13 & 14	CA25	GP Input 5 (Prog. Input #1)	D12	Port 2 Rx/Tx- RS485
BB3	Relay B14 - GP Output #20 (Isolation Valve Product 2)	CA26	GP Input 6 (Prog. Input #2)	D13	Port 3 Rx RS232
BB4	Relay B15 - GP Output #21 (Isolation Valve Product 3)	CA27	GP Input 7 (Prog. Input #3)	D14	Port 3 Tx RS232
BB5	Common for Relay 15 & 16	CA28	GP Input 8 (Prog. Input #4)	D15	Port 3 0V Common
BB6	Relay B16 - GP Output #22 (Isolation Valve Product 4)	CB1	RTD 3 Source	D16	Port 3 Rx/Tx+ RS485
		CB2	RTD 3 Sense (+) / 4-20mA 5 (+) Temperature Input Product 3	D17	Port 3 Rx/Tx- RS485
		CB3	RTD 3 Sense (-)	D18	Signal Ground
				D19	Signal Ground
				D20	+5V to Reader
				D21	Card Int/Touch Key Data Out
				D22	Card data/Touch Key Data In
				D23	Card Present
				D24	Not used
				D25	Not used
				D26	Not used
				D27	Not used
				D28	Not used
				D29	Not used

NOTE:

- GP Outputs are configurable. The settings listed in brackets for GP outputs are default settings.
- RIT output and inputs will be set only if the RIT Panel is enabled.
- Except for emergency stop the rest inputs are configurable.
The settings listed for rest of GP inputs in the brackets are default settings.
- Either the RTD or 4-20mA sensor can be used to sense the temperature of the product.
- For configuration refer to the 1010CB programming manual.
- Internal Additives are not available in sales codes G, H and J.
- RIT Panel is not available in the sales code J.
- In case of straight loading arm if the mass meter is used with volume preset then the inputs shown for density can be used to connect the densitometer.