

# Integrated Power System (IPS)

## Installation Guide

**WIRED RITE SYSTEMS™, INC.**  
5793 Skylane Boulevard  
Windsor, CA 95492

## Installing Wired Rite Systems, Inc. Integrated Power System (IPS).

All referenced system components are diagrammed on inside cover.

1. Install switch panel.

Install switch panel on or under dash as required. Switches are of the magnetic circuit breaker type, no additional circuit breaker protection should be required. A trunion mount is supplied for ease of installation.

2. Install switch panel harness (P/N HN984)

Plug switch panel harness connector J1 into switch panel pigtail connector J1. Route the switch panel harness to the location where the PDC will be installed. The switch panel harness was designed to be installed in the channel of the door sill, under the trim plate.

3. Install Power Distribution Center (PDC).

Drill holes and mount the PDC (Power Distribution Center) (P/N X-PDC-IPS). The best location is one that is not exposed to the elements. Two excellent installation locations are in the cab (the wall behind the seat) and the panel on the lower area of the passenger side of the bench seat.

4. Plug switch panel harness connector J2 into PDC switch panel receptacle J2, located on the connector bracket of the PDC chassis.

5. Remove PDC cover by releasing four "quick release" fasteners.

6. Install SST (Start/Stop/Throttle) engine controller.

**Note: If you are installing an IPS in a non-insulated bucket vehicle you could use Wired Rite's Multi-function Relay Control Board (MRCB-4). Please see page 3 "Expansion capability" for details.**

Install SST to PDC in location as shown with supplied hardware. Attach SST connector J4 to the inside of connector bracket on PDC chassis. Attach SST pigtail to fastener on connector bracket with a tie wrap.

7. Install engine harness (P/N HN987) to PDC.

Plug connector J3 of engine harness to mating receptacle J3 on PDC connector bracket.

Plug connector J4 of engine harness to mating receptacle J4 on PDC connector bracket.

8. Install the manual reset circuit breaker (P/N CBW1081, model # CB80-R) to a location near the battery in engine compartment. Connect a 10 ga. wire from the positive terminal of the battery to the "Bat" terminal of the circuit breaker.

9. Install engine harness (P/N HN987) in engine compartment.

Route engine harness to suitable position in engine compartment. Make sure that all input devices are within reach. See your SST wiring guide for further information as needed. Cut wires to appropriate length, terminate and connect as follows:

Color	Label	AWG	Function
Red	BUS	10	Battery bus (positive) wire. Fasten to "Aux" terminal of circuit breaker (P/N CBW1081, model # CB80-R).
White	GND	14	Ground
Orange	IGN	14	* Ignition splice
Orn/Red	FUELSOL	14	* Fuel solenoid if diesel, distributor if gasoline
Orn/Black	STARTER	14	Starter
Orn/Brown	THROTTLE	14	Throttle

When installing ignition splice/fuel solenoid make sure that the ignition wire (orange) is on the supply side of the "splice" and the fuel solenoid wire (org/red) is on the appliance side of the "splice". If not wired as described, SST will lock up in the stop mode.

10. Wire PDC outputs (13 position terminal strip left to right). The following assumes typical list of hookups - your assignments may vary. Use 14 AWG wire minimum, # 6 ringlug:

Terminal #	Color	Label	Appliance
1*	red	BUS	Battery positive, unswitched, system connection
2	pur/green	E POWER	E power pump solenoid output (positive)
3	grn/wht	HOURMTR	Hour meter (positive or negative, check switch panel)
4	gray/red	PTO ENG	PTO engaged (positive or negative, check switch panel)
5	pnk/pur	SP-SW2	Spare switch #2 (positive)
6	pnk/blu	SP-SW1	Spare switch # 1 (positive)
7	yel/grn	COMP LS	Compartment lights (positive)
8	brn/yel	STROBE	Strobe (positive)
9	grn/red	PTO PWR	PTO power (positive)
10*	red/wht	MASTER	Master positive, switch panel, system connection
11*	pnk/grn	SST/BAT	Battery positive, unswitched, system connection
12*	white	GND	Ground
13*	white	GND	Ground

### Dual Plunger Operation

Bucket Start/Stop plunger will start and stop the engine only. Two speed throttle operation is activated by depressing throttle plunger. E-Pump operation is enabled by depressing and holding the throttle plunger down for four seconds. Engine must be in Stop or Kill mode.

### Single Plunger Control Operation

Start/Stop and E-Pump functions are enabled by the same plunger unless a second plunger is installed and independent e-power operation is specified to Wired Rite Systems at time of ordering. To engage E-Pump, press and hold plunger for four seconds while engine is in Kill mode.

\* Denotes system terminations. Installation by user not required.

### To Stop Engine

Description of other devices installed on PDC:

**10 position circuit breaker block P/N CBB1020** is energized by the ignition switch relay to operate 12V appliances. Circuit breaker block sockets will accept Wired Rite available circuit breakers in automatic and manual configuration. One 10 amp manual circuit breaker (P/N CBM 1040) is supplied and protects the switch legend backlights and the switch panel mounted hour meter. Circuit breaker block also accepts ATC or ATO blade type fuses. Circuit breakers are available from 10 amps to 30 amps. Wired Rite Systems, Inc. highly recommends the use of manual reset circuit breakers.

Type(reset)	Size (amps)	Part number
Manual	10	CBM1046
Manual	15	CBM1047
Manual	20	CBM1048
Manual	25	CBM1049
Manual	30	CBM1050

**75 amp relay (P/N RLY1166)** in upper left corner of PDC is the "ignition on" power relay, designed to relieve the load of the ignition switch.

**30/40 relay (P/N RLY1165)** is the power relay designated to activate the E-Power pump solenoid.

Expansion capability:

If the electrical system of your vehicle becomes more complex, Wired Rite Systems, Inc. Integrated Power System (IPS) has been designed to accommodate the inclusion of the following optional components:

1. One 30/40 relay (P/N RLY1165)
2. One 75 amp relay (P/N RLY1166)
3. One 8 position circuit breaker block (P/N CBB1023)
4. Multi-function Relay Control Board (MRCB-4)
5. 12 Conductor auxiliary harness
6. PTO Protector
7. Throttle interface kit

A Multi-function Relay Control Board (MRCB-4) with pigtail and enclosure (P/N X-MRCB4-2070) may be installed in place of the SST to operate non insulated aerial man lift buckets. The two position connector J5 on the engine harness cannot be used for the MRCB-4 hookup. A four position connector J6 has been provided on the MRCB-4 pigtail to mate with the four switch inputs from the bucket.

For answers to any installation questions concerning the Wired Rite Systems, Inc. Integrated Power System (IPS), contact your Wired Rite technician at:

WIRED RITE SYSTEMS™, INC.  
5793 Skylane Boulevard  
Windsor, CA 95492

Tel: 800-538-RITE  
Fax: 800-525-RITE