BiANCO NXT

solar

SOLAR-PLUS
AC/DC changeover controller

MADE IN CHINA

BiANCO NXT

START STOP

STORE SET

AUTO MANUAL

Designed and distributed by **White International**

M110 SOL
M220 SOL
M240 SOL

WHITE® INTERNATIONAL

A short press of START/STOP switches the unit between standby and active
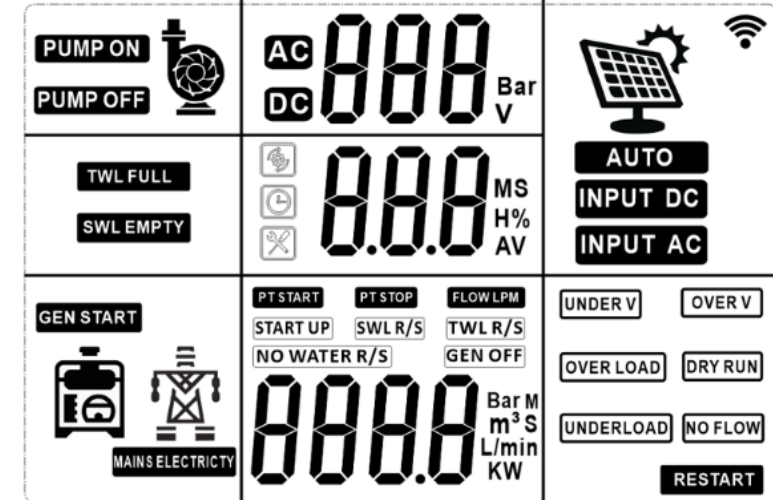
Select the operating mode with short presses of the AUTO/MANUAL button

- DC MODE: power supplied from a Solar Array or Battery storage
- AC MODE: power supplied from a Generator or Mains power
- AUTO MODE: Automatic switching from DC to AC

The LCD screen provides considerable information about the current state of the system.

The iSolar motor is always adjusting its operating state to make the best use of the energy available.

Displaying the operating state graphically enables the end user to better understand what is occurring and simplifies trouble shooting.

BiANCO NXT solar

Main information screen. Short presses of the STORE/SET button will display additional information. i.e. from 4-20mA sensor or flow sensor

| START STOP | STORE SET | AUTO MANUAL |

A short press of START/STOP switches the unit between standby and active. The pump icon animates when power is being supplied to the pump
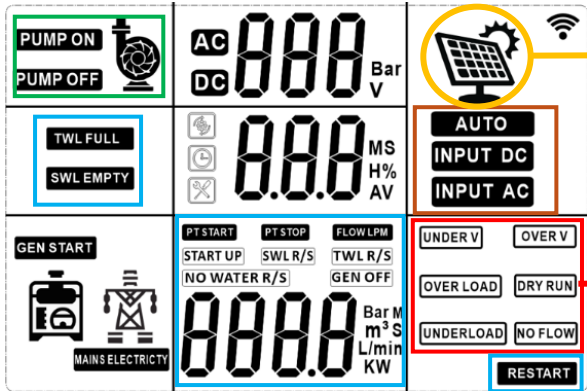
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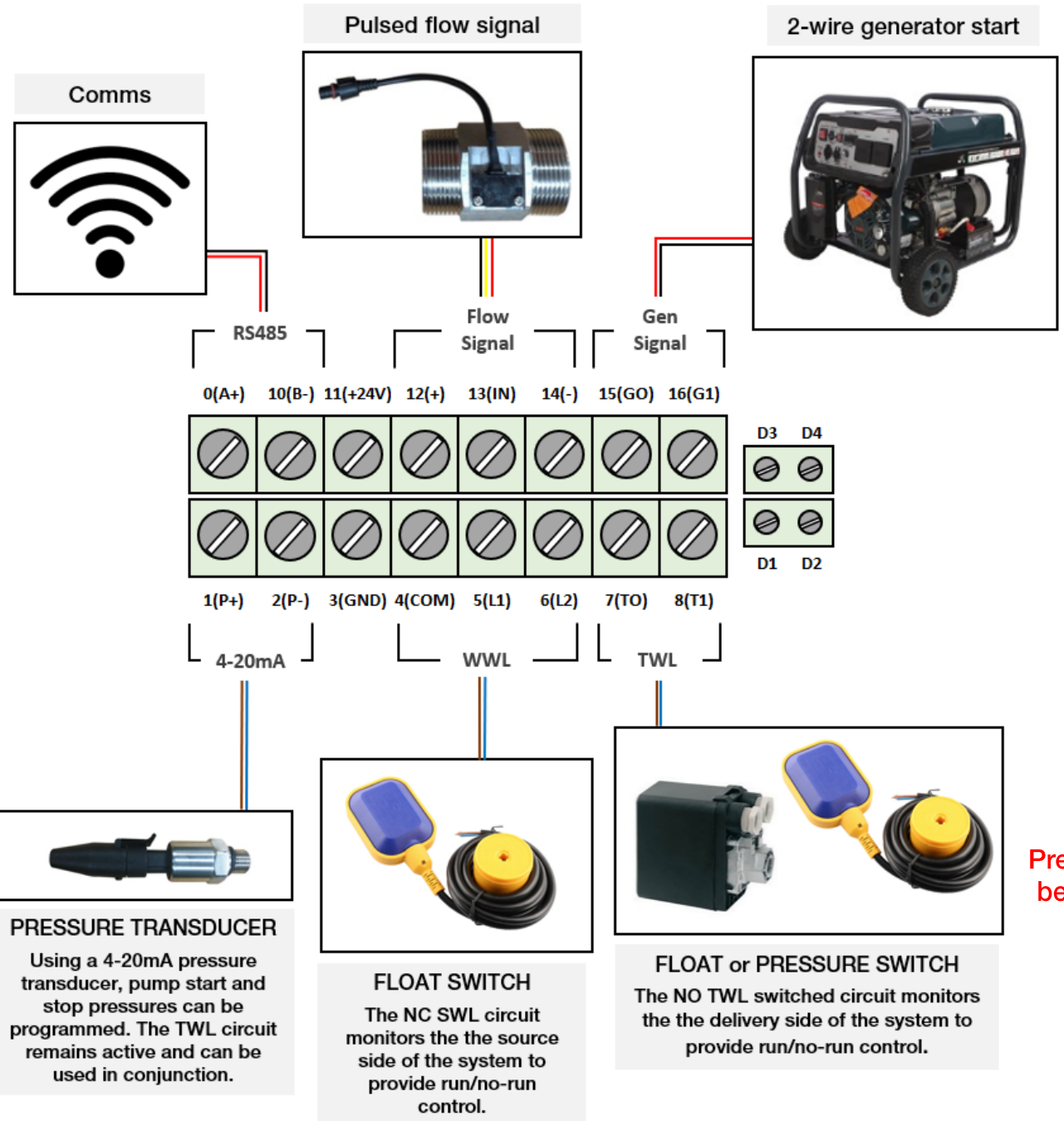
VOLTAGE

AMPERAGE

WATTAGE

PUMP ON
PUMP OFF

AC 888 Bar
DC V

888 MS
H%
AV

TWL FULL
SWL EMPTY

GEN START

PT START   PT STOP   FLOW LPM
START UP   SWL R/S   TWL R/S
NO WATER R/S   GEN OFF

8888 Bar M
m³ S
L/min
KW

MAINS ELECTRICTY

AUTO
INPUT DC
INPUT AC

UNDER V   OVER V
OVER LOAD   DRY RUN
UNDERLOAD   NO FLOW
RESTART

When the DC voltage is greater than the voltage setting at Parameter #4, the array icon will display

Protections

The Solar Plus controller has a number of timer functions, both start countdown and restart timers. The icons displayed on the screen reflect what the controller is doing. i.e. Why the pump is stopped, how long until the pump attempts to restart. When the TWL FULL and SWL EMPTY icons are visible, the pump will not attempt to start

Comms

Pulsed flow signal

2-wire generator start

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online

RS485 | Flow Signal | Gen Signal

0(A+) 10(B-) 11(+24V) 12(+) 13(IN) 14(-) 15(GO) 16(G1)

D3 D4

D1 D2

1(P+) 2(P-) 3(GND) 4(COM) 5(L1) 6(L2) 7(TO) 8(T1)

4-20mA | WWL | TWL

PRESSURE TRANSDUCER

Using a 4-20mA pressure transducer, pump start and stop pressures can be programmed. The TWL circuit remains active and can be used in conjunction.

FLOAT SWITCH

The NC SWL circuit monitors the the source side of the system to provide run/no-run control.

FLOAT or PRESSURE SWITCH

The NO TWL switched circuit monitors the the delivery side of the system to provide run/no-run control.

Pressure switches must be reverse-acting type (Normally open)

A BiANCO NXT Flow Sensor MUST be installed.

809521 SS Flow Sensor 40 with 10m cable – Flow range 5 – 200 lpm
809522 SS Flow Sensor 50 with 10m cable – Flow range 10 – 300 lpm

Isolate the power to remove any power to the controller.

Set dip switch Position 3 ON/UP to activate the flow sensor logic.

WIRING:

The yellow wire attaches to Terminal #13
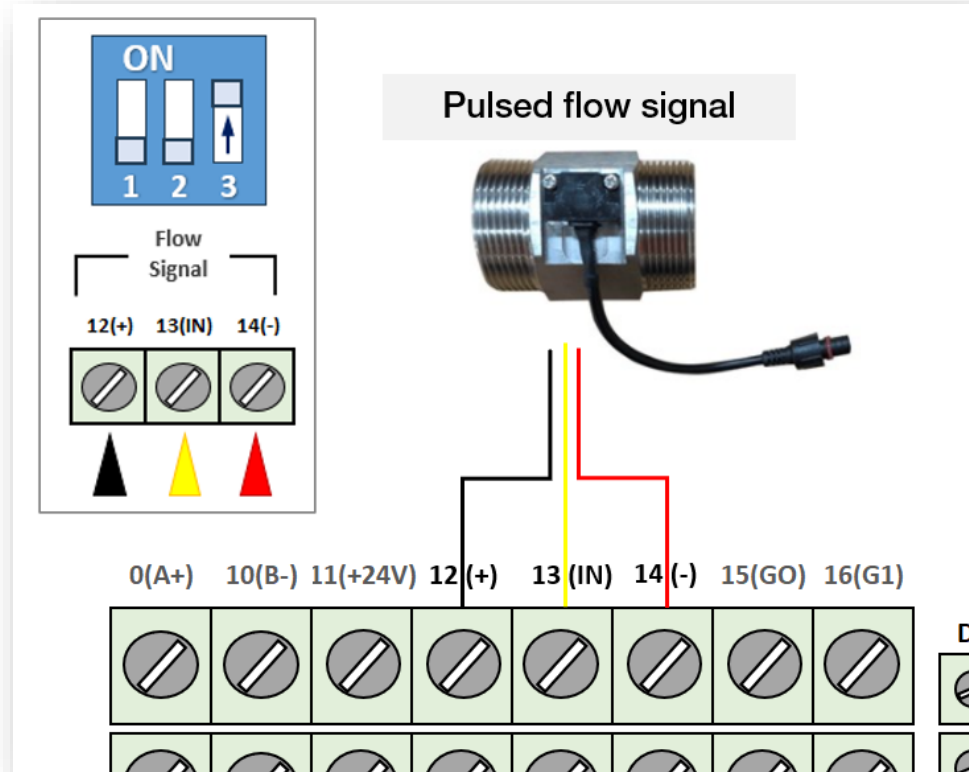The Red and Black wires attach to terminals #12 and #14
Which wire connects where is known to vary. Try reversing the Red and Black if you can't get a reading

WIRING CHECK:

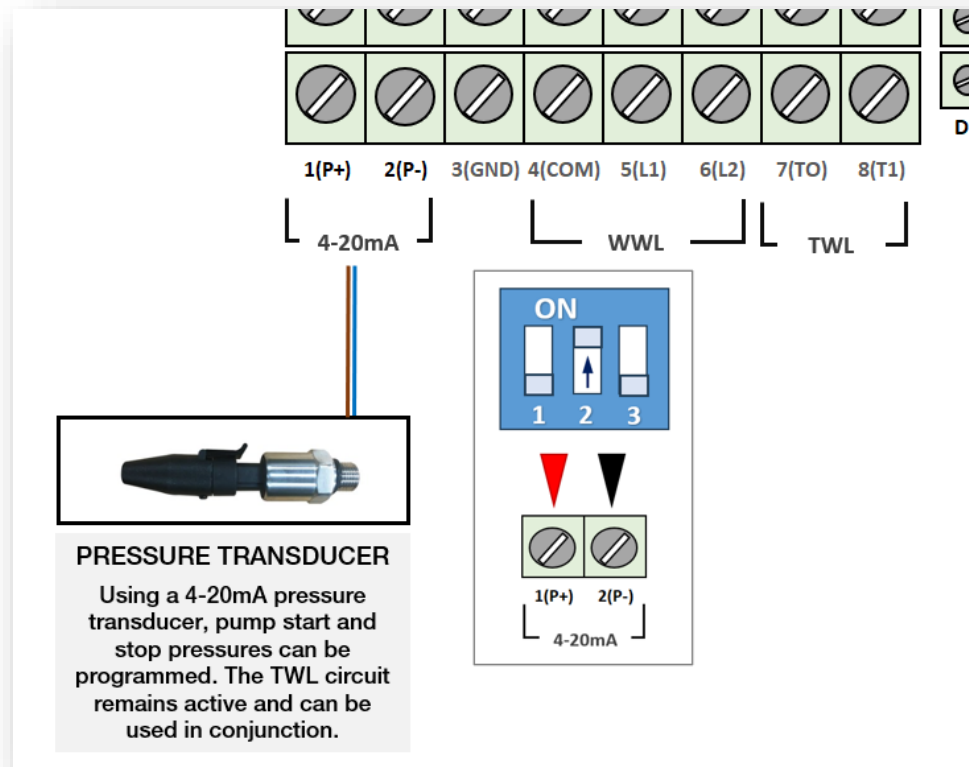• Power the controller on and select Pump On.

• When the controller is supplying power to the pump, a short press of STORE/SET will display the flow

• By blowing gently through the flow sensor, the display should provide instantaneous flow.
If it does not return a reading, swop the wires in terminal #12 and #14

Parameters #11 – 13 and #20 can be adjusted as required
• Set parameter #14 to 45 sec
• Set parameter #12 to 250 sec

A 2 wire 4-20mA pressure transducer can be used to control the pump operation

Isolate the power to remove any power to the controller.

Set dip switch Position 2 ON/UP to activate the flow sensor logic.

Parameters 22 – 24 will need to be programmed

22	Pressure sensor range	Range 1 – 25.0	Default 25.0 bar
23	Stop pump setting	Range 1 – 25.0	Default 8.0 bar
24	Start pump setting	Range 1 – 25.0	Default 2.0 bar

Ensure Parameter #24 is higher than Parameter #23

Name	PN	
BIA-TRANSDUCER 1MPA	802680	
BIA-TRANSDUCER 2.5 MPA	811954	
BIA-TRANSDUCER 2.5 MPA	811955	

Increase a value

Decrease a value

Press and Hold for 5 sec to save and exit programming mode

The iSolar Motor EMM software provides the following functions:

1. Accepts AC or DC power
2. MPPT (maximum power point tracking)
3. Vector control
4. Dry run protection
5. Reverse protection
6. Over-head protection
7. Over-load protection
8. Over-current protection
9. Lost-Phase protection
10. Missing-voltage protection
11. Over-power protection
12. Low voltage protection
13. Stall protection

	Description	Setting	
04	Trip Voltage of DC to AC	Range 1 – 300	Default 45V
05	DC Over-voltage	Range 1 – 500	Default 280V
06	AC Under-voltage	Range 1 – 300	Default 150V
07	AC Over-voltage	Range 1 – 500	Default 290V
08	Pump overload current	Range 00 – 40.0	Default 25.0 amps
09	Generator/Mains (AC) settings	0 = Auxiliary Input Mains 1 = Auxiliary Input Generator	
10	Generator shutdown delay setting	Range 00 – 60 min	Default 03 min
11	Minimum flow (pulses)	Range 0 – 254	Default 30
12	Trip Measurement period Related to Parameter #11	Range 0 – 254 sec	Default 180 sec
13	No flow restart attempts	Range 1 – 60	Default 05
14	Power on countdown timer	Range 1 – 254 sec	Default 120 sec
	Parameter 14 allows the iSolar motor capacitors to discharge prior to starting. Alter with care		
15	SWL restart delay timer	Range 0 – 60 min	Default 10 min
16	TWL restart delay timer	Range 0 – 60 min	Default 10 min
17	Under/Overvoltage recovery time	Range 0 – 60 min	Default 02 min
18	Overcurrent recovery time	Range 0 – 60 min	Default 02 min
19	Flow recovery restart time	Range 00 – 60 min	Default 30 min
20	No flow (pulse) restart time	Range 00 – 60 min	Default 60 min
21	Controller Button Lock	YES / NO	00 = Off 01 = On
22	Pressure Sensor Range	4-20ma Range 1 – 25.0	Default 25.0 bar
23	Stop pump setting	Range 1 – 25.0	Default 8.0 bar
24	Start pump setting	Range 1 – 25.0	Default 2.0 bar

4 – 20mA