Powercentre

data sheet	P2031
issue date	12/09/13

data sheet single engine two battery bank split charge system

12 volt …. P2031 part number …. 12031-300

24 volt …. P2041 part number …. 12041-300

contactor current rating

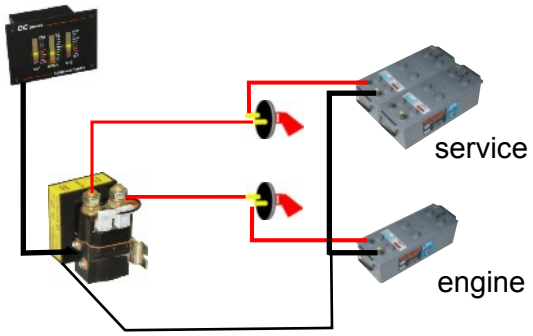
continuous ……..... 200 amp @ 40 mV / contact / 100 A
engine start ……..... 400 amp intermittent
surge ……..…… 800 amp

operation ……..…. bi-directional split charge, standard

connect voltage ..…… 13.8V / 27.6V
drop-out voltage …….. 13.0V / 26.0V

adjustment ……..... contactor engagement and drop out

protection ……. waterproof to IP66



display

type ……..... 10 dot bar-graph x 3

engine ……. battery voltage
service …….. battery voltage and net amps, charge & discharge

ammeter shunt …… 1 integral

emergency link start … includes button to engage link start timed period.

system protection . . 3 internal PTC fuses, auto re-set

size / weight

contactor .. ……. 70 x 60 x 100 mm / 500 gms

display …….. 100 x 60 x 50 mm / 80 gms

standard pre-fitted options

contact drop-out with engine starter motor operation …. to protect solar panel and secondary charge systems from high current.

emergency link start ….. allows engine to be started from service battery bank, timed engagement, remote switch on display.

split charge contactor

The system employs heavy duty contactors, these carry far higher loads than typical VSR relays, making them ideal for emergency engine starting. They also feature a high fault current rupture rating (300 amp to UL508), allowing the disconnection of high current loads at low voltage. The contacts are sealed to IP66, making them suitable for operation in a marine environment, protecting contacts from corrosion and avoiding flash from open contactor units.

emergency link start engages the contacts allowing the engine to be started from the service bank, if the engine battery has a low capacity.

operating voltage settings

Units are supplied normally set to standard voltages, we are happy to set modules to customer requirements, or they can be adjusted on site.

options to order

contact rating …….. 100 and 350 amp
coil voltages ……12 volt DC to 48 volt DC

fresh water gauge …….. display can be supplied to read fresh water tank level on ammeter bar-graph, includes sensor.

remote current sensor .. sensor protects the charge system from high loads i.e. inverter use with low service battery level.

display options …… digital readout in addition to the standard bar-graph, amps & volts selectable plus engine volts.

single voltage sense ….. only monitors one contactor terminal, not bi-directional operation.

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bar-graph

The display allows real time charge monitoring of both volts and amps for all batteries, plus it provides a battery level guide to both battery banks. By employing LED bar-graphs all voltages and amperages can be viewed with out the need for selector switch, or waiting for a display to scroll through. Critical battery voltage levels have red LED's to give visual warning, even when not close to display. The ammeter bar-graphs have a bi-colour LED's that shows polarity of current, green for charge, red for discharge, again providing instant warning if a problem

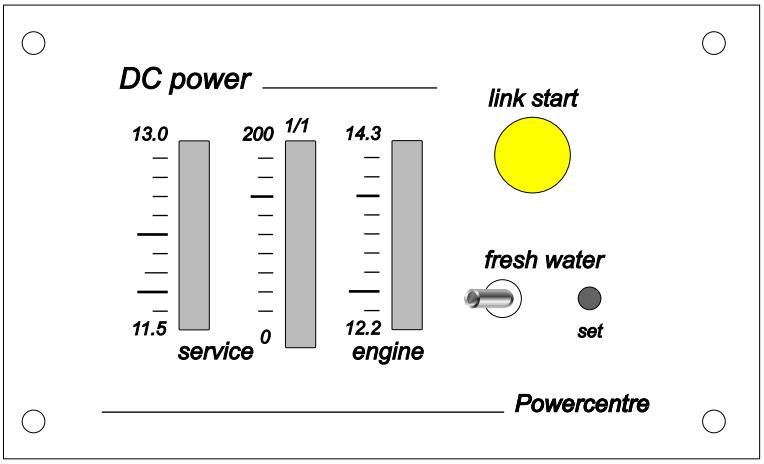
When charging batteries, the optimum recharge level for a system is when the voltage is at maximum and the current is low, easy to see as the bar-graphs are next to each other. At this point the batteries will not be taking any more significant charge, so motoring for longer is now only consuming fuel and money.

High voltage alarm, drives a audio alarm to indicate high charge voltage level, normally set at 15 volt, other values can be supplied factory set.

The display can be supplied to display the fresh water tank level on the ammeter bar-graph, it only requires the sensor head to be fitted to water tank. The system has the provision to set gauge reading to match the fresh water tank level.

The display only requires connecting a 6 way data cable matching colour to colour, no shunts or cable modifications to alternator wiring are required.

standard display unit ***full size 100 mm x 60 mm x 50 mm deep***



standard display scaling

service V		service A	engine V	
12.90	100%	120	14.30	
12.75		90	13.65	
12.50		60	13.20	
12.45		40	12.90	100%
12.30	50%	30	12.65	
12.15	100%	20	12.50	
12.00		14	12.40	
11.85		10	12.30	50%
11.70	50%	8	12.25	
11.55		6	12.20	

	no load	on load
battery level guide	50% 100%	50% 100%
red LED		

display options

The bar-graph can be supplied to order with alternate display values to suit a particular charging system, see ***alternate scaling*** allowing the display to be matched to the intended use,

logarithmic scale provides a extended scale in the low half, allowing better low current monitoring of the completion of charge, or current drain during use. While the initial high charge current can be monitored on the upper high section.

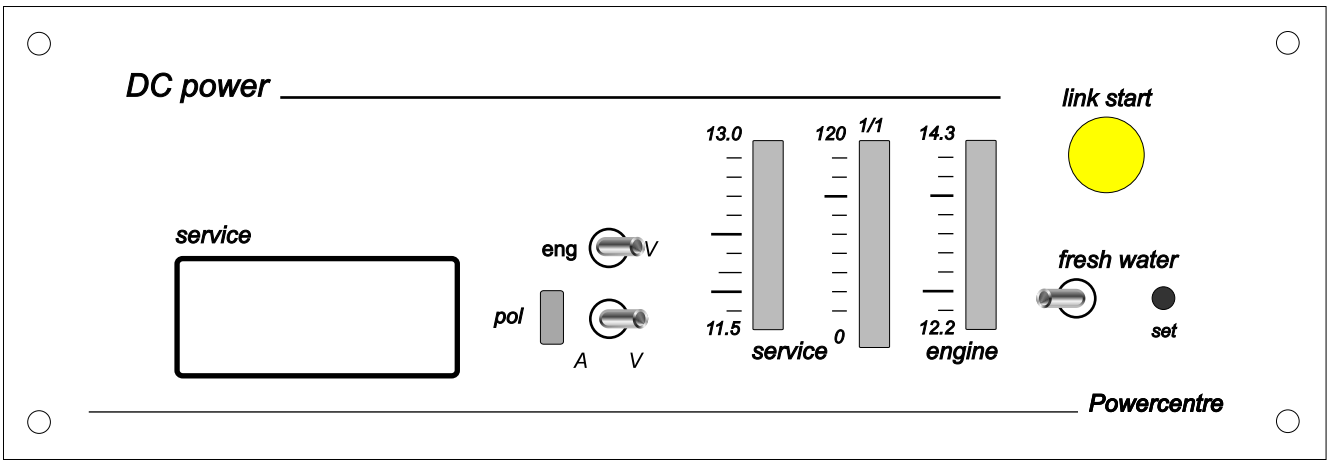
linear scale, is used for monitoring charge current, or high discharge loads, the meter scale is uniform over the full meter range.

For non standard options please contact technical section.

alternate display scaling

log scale		linear scale	
60	240	100	200
45	175	90	180
30	125	80	160
20	80	70	140
15	60	60	120
10	40	50	100
7	28	40	80
5	20	30	60
4	16	20	40
3	12	10	20

Digital / bar-graph display ***full size 175 mm 60 mm x 50 deep***



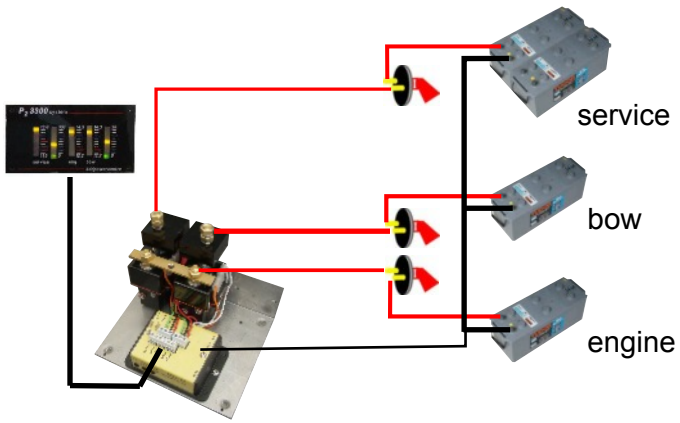
Powercentre

data sheet	P2131
issue date	12/09/13

data sheet single engine three battery bank split charge system

12 volt …. P2131 part number …. 12131-500

24 volt …. P2141 part number …. 12141-500



contactor current rating

continuous ……..... 200 amp @ 40 mV / contact / 100 A
engine start ……..... 400 amp intermittent
surge ……..…… 800 amp

operation ……..… bi-directional split charge, standard

connect voltage ..…… 13.8V / 27.6V bow battery 13.9V/27.8V
drop-out voltage …….. 13.0V / 26.0V

adjustment ……..... contactor engagement and drop out

protection ……. waterproof to IP66

display

type ……..... 10 dot bar-graph x 5

engine ……. battery voltage
service …….. battery voltage and net amps, charge & discharge
bow …… battery voltage and charge amps.

ammeter shunt …… 2 x Hall effect shunts integral

emergency link start … remote button to engage link start timed period.

system protection . . 4 internal PTC fuses, auto re-set

size / weight

contactor .. …… 175 x 150 x 135 mm / 1.5 Kg

display …….. 100 x 60 x 50 mm / 100 gms

optional display

standard pre-fitted options

contactor drop-out with engine starter motor operation …. to protect solar panel and secondary charge systems from high current.
bow contactor drop out with bow thruster use …. forces bow thruster to use local battery, avoiding charge system overload.
emergency link start ….. allows engine to be started from service battery bank, timed engagement, remote switch on display.

split charge contactors

The system employs heavy duty contactors, these carry far higher loads than typical VSR relays, making them ideal for emergency engine starting. They also feature a high fault current rupture rating (300 amp to UL508), allowing the disconnection of high current loads at low voltage. The contacts are sealed to IP66, making them suitable for operation in a marine environment, protecting contacts from corrosion and avoiding flash from open contactor units.

emergency link start allows the engine to be started from the service bank for timed period, if the engine battery has a low capacity.

operating voltage units are normally set to standard switching voltages, we are happy to set modules to customer requirements, or they can be adjusted on site. Alternate voltages can be supplied to order, please contact technical section.

operation initial charge to engine battery, the service battery is connected when battery voltage reaches 13.8 volt, the bow battery in connected at 13.9 volt, batteries are isolated when voltage levels fall to 13.0 volt. The system uses the pulse engagement system first introduced in 1982, with a low battery capacity, on the contactor closing it is held for a period, then disengaged, recharging the engine battery and allowing heat generated within the alternator to disperse, before re-engaging the alternator to a high load. Once the load is within the alternators operating parameters the contactor remains closed.

options to order

contact rating …….. 100 and 350 amp
coil voltages ……12 volt DC to 48 volt DC
fresh water gauge …….. display can be supplied to read fresh water tank level on ammeter bar-graph, includes sensor.
remote current sensor .. sensor protects the charge system from high loads i.e. inverter use with low battery level.
remote bow shunt …… . shunt monitors net charge and discharge for bow battery, it also picks up local battery positive voltage.
display options …… digital readout in addition to bar-graph, amps & volts selectable, engine volts, bow batt charge amps & volts

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bar-graph

The display allows real time charge monitoring of both volts and amps for all batteries, plus it provides a battery level guide to both battery banks. By employing LED bar-graphs all voltages and amperages can be viewed with out the need for selector switch, or waiting for a display to scroll through. Critical battery voltage levels have red LED's to give visual warning, even when not close to display. The ammeter bar-graphs have a bi-colour LED's that shows polarity of current, green for charge, red for discharge, again providing instant warning if a problem

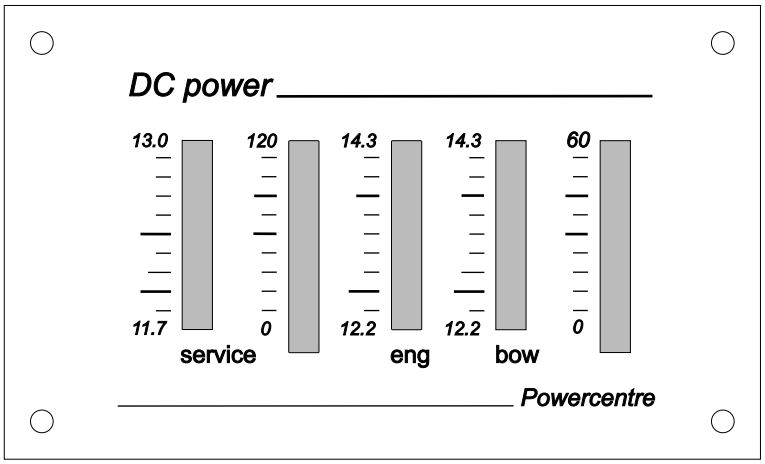
When charging batteries, the optimum recharge level for a system is when the voltage is at maximum and the current is low, easy to see as the bar-graphs are next to each other. At this point the batteries will not be taking any more significant charge, so motoring for longer is now only consuming fuel and money.

High voltage alarm, drives a audio alarm to indicate high charge voltage level, normally set at 15 volt, other values can be supplied factory set.

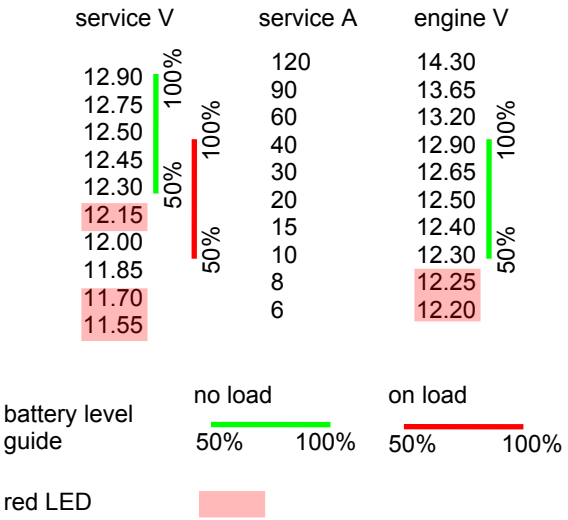
The display can be supplied to display the fresh water tank level on the ammeter bar-graph, it only requires the sensor head to be fitted to water tank. The system has the provision to set gauge reading to match the fresh water tank level.

The display only requires connecting a 6 way data cable matching colour to colour, no shunts or cable modifications required.

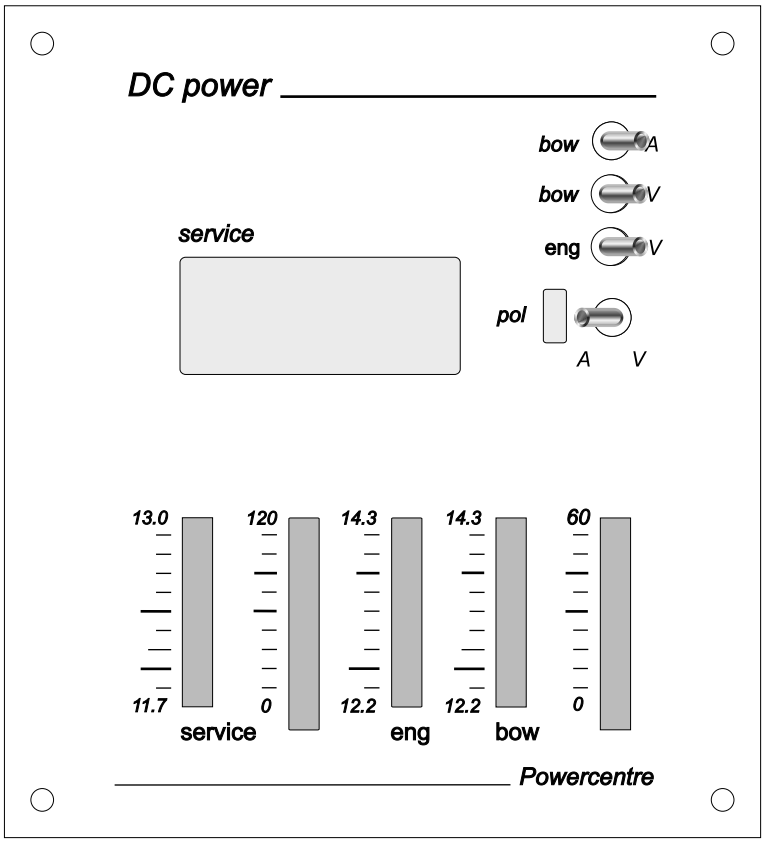
standard display unit ***full size 100 mm x 60 mm x 50 mm deep***



display read-out



Digital / bar-graph display ***full size 175 mm 60 mm x 50 deep***



display options

The bar-graph can be supplied to order with alternate display values to suit a particular charging system, see ***display options*** allowing the display to be matched to the intended use,

logarithmic scale provides a extended scale in the low half, allowing low current monitoring of the completion of charge, or current drain during use. While the high charge current can be monitored on the upper high section.

linear scale, is used for monitoring charge current, or high discharge loads, the meter scale is uniform over the full range.

For non standard options please contact technical section.

alternate display reading

log scale		linear scale	
60	240	100	200
45	175	90	180
30	125	80	160
20	80	70	140
15	60	60	120
10	40	50	100
7	28	40	80
5	20	30	60
4	16	20	40
3	12	10	20

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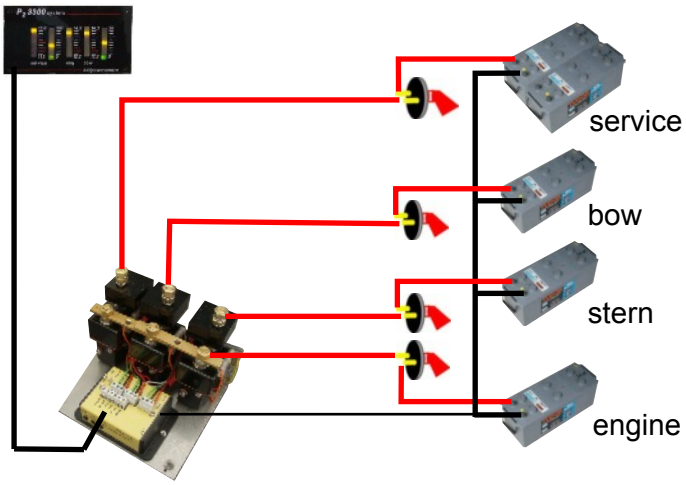
Powercentre

data sheet	P2231
issue date	12/09/13

data sheet single engine four battery bank split charge system

12 volt …. P2231 part number …. 12231-800

24 volt …. P2241 part number …. 12241-800



contactor current rating

continuous ……..... 200 amp @ 40 mV / contact / 100 A
engine start ……..... 400 amp intermittent
surge ……..…… 800 amp

operation ……..…. bi-directional split charge, standard

connect voltage ..…… 13.8V / 27.6V, 13.9 / 27.8, 13.95 / 27.9
drop-out voltage …….. 13.0V / 26.0V

adjustment ……..... contactor engagement and drop out

protection ……. waterproof to IP66

display

type ……..... 10 dot bar-graph x 8

engine ……. battery voltage
service …….. battery voltage and net amps, charge and discharge
bow ……. battery voltage charge amps, option charge and discharge
stern ……. battery voltage charge amps, option charge and discharge.

Ammeter shunts …….. 3 x Hall effect shunts integral.

emergency link start … includes button to engage link start timed period.

system protection . . 5 internal PTC fuses, auto re-set

size / weight

contactor .. ……. 175 x 150 x 135 mm / 1.9 Kgs

display ……. 175 x 60 x 50 mm / 100 gms

standard pre-fitted options

contactor drop-out with engine starter motor operation …. to protect solar panel and secondary charge systems from high current.
bow contactor drop out with bow thruster use ……... forces bow thruster to use local battery, avoiding charge system overload.
stern contactor drop out with stern thruster use …… forces stern thruster to use local battery, avoiding charge system overload.
emergency link start ….. allows engine to be started from service battery bank, timed engagement, remote switch on display.

split charge contactors

The system employs heavy duty contactors, these carry far higher loads than typical VSR relays, making them ideal for emergency engine starting. They also feature a high fault current rupture rating (300 amp to UL508), allowing the disconnection of high current loads at low voltage. The contacts are sealed to IP66, making them suitable for operation in a marine environment, protecting contacts from corrosion and avoiding flash from open contactor units.

emergency link start allows the engine to be started from the service bank for timed period, if the engine battery has a low capacity.

operating voltage units are normally set to standard switching voltages, we are happy to set modules to customer requirements, or they can be adjusted on site. Alternate voltages can be supplied to order, please contact technical section.

operation initial charge to engine battery, the service battery is connected when battery voltage reaches 13.8 volt, the bow battery in connected at 13.9 volt, stern thruster battery at 13.85 volt batteries are isolated when voltage levels fall to 13.0 volt. The system uses the pulse engagement system first introduced in 1982, with a low battery capacity, on the contactor closing it is held for a period, then disengaged, recharging the engine battery and allowing heat generated within the alternator to disperse, before re-engaging the alternator to a high load. Once the load is within the alternators operating parameters the contactor remains closed.

options to order

contact rating …….. 100 and 350 amp,
coil voltages …….. 12 volt DC to 48 volt DC
fresh water gauge …….. display can be supplied to read fresh water tank level on ammeter bar-graph, includes sensor.
remote current sensor .. sensor protects the charge system from high loads i.e. inverter use with low battery level.
remote bow shunt …… . shunt monitors net charge and discharge for bow battery, it also picks up local battery positive voltage.
remote stern shunt ….. . shunt monitors net charge and discharge for stern battery, it also picks up local battery positive voltage.
display options …… custom display with digital readout in addition to bar-graph, amps & volts.

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bar-graph

The display allows real time charge monitoring of both volts and amps for all batteries, plus it provides a battery level guide to both battery banks. By employing LED bar-graphs all voltages and amperages can be viewed with out the need for selector switch, or waiting for a display to scroll through. Critical battery voltage levels have red LED's to give visual warning, even when not close to display. The ammeter bar-graphs have a bi-colour LED's that shows polarity of current, green for charge, red for discharge, again providing instant warning if a problem

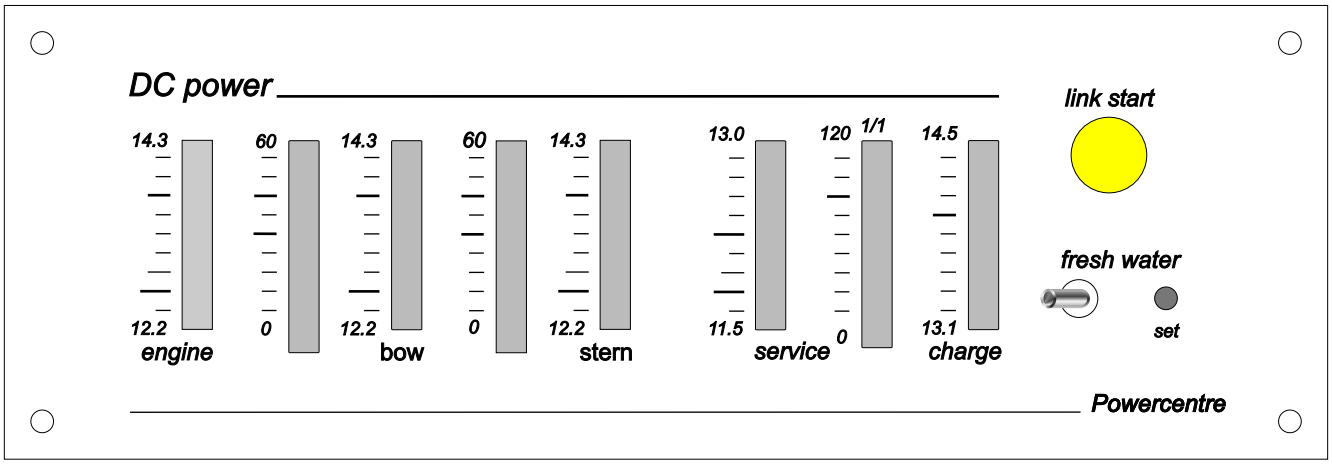
When charging batteries, the optimum recharge level for a system is when the voltage is at maximum and the current is low, easy to see as the bar-graphs are next to each other. At this point the batteries will not be taking any more significant charge, so motoring for longer is now only consuming fuel and money.

High voltage alarm, drives a audio alarm to indicate high charge voltage level, normally set at 15 volt, other values can be supplied factory set.

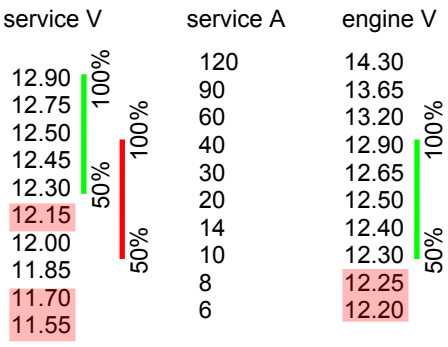
The display can be supplied to display the fresh water tank level on the ammeter bar-graph, it only requires the sensor head to be fitted to water tank. The system has the provision to set gauge reading to match the fresh water tank level.

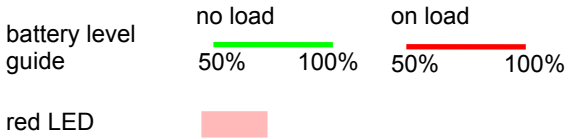
The display only requires connecting a 8 way data cable matching colour to colour, no shunts or cable modifications required.

standard display unit ***full size 175 mm x 60 mm x 50 mm deep***



display read-out





display options

The bar-graph can be supplied to order with alternate display values to suit a particular charging system, see ***display options*** allowing the display to be matched to the intended use,

logarithmic scale provides a extended scale in the low half, allowing low current monitoring of the completion of charge, or current drain during use. While the initial high high charge current can be monitored on the upper section.

linear scale, is used for monitoring charge current, or high discharge loads, the meter scale is uniform over the full meter range..

digital readout for all functions can be supplied to supplement the bar-graph display, allowing detail examination of volts or amps.

For non standard options please contact technical section.

alternate display scaling

log scale		linear scale	
60	240	100	200
45	175	90	180
30	125	80	160
20	80	70	140
15	60	60	120
10	40	50	100
7	28	40	80
5	20	30	60
4	16	20	40
3	12	10	20

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Powercentre

data sheet	P2631
issue date	12/09/13

data sheet single engine, two alternator, three battery bank split charge

12 volt …. P2631 part number …. 12631-500

24 volt …. P2641 part number …. 12641-500

contactor current rating

continuous ……..... 200 amp @ 40 mV / contact / 100 A
engine start ……..... 400 amp intermittent
surge ……..…… 800 amp

operation ……..…. bi-directional split charge, standard

connect voltage ..…… service constant, bow 13.8V / 27.6V
drop-out voltage …….. 13.0V / 26.0V

adjustment ……..... contacts engagement and drop out

protection ……. waterproof to IP66

display

type ……..... 10 dot bar-graph x 5

engine ……. battery voltage
service …….. battery voltage and net amps, charge & discharge
bow …… battery voltage and charge amps to bow battery.

ammeter shunt ……. integral Hall effect shunt

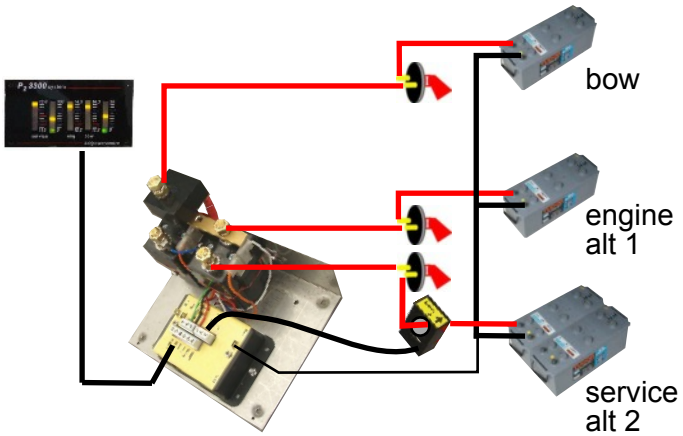
emergency link start … includes button to engage link start timed period.

system protection . . 4 internal PTC fuses, auto re-set

size / weight

contactor .. …… 175 x 150 x 135 mm / 1.5 Kgs

display ……..... 100 x 60 x 50 mm / 80 gms



optional display

standard pre-fitted options

bow contactor drop out with bow thruster use …. forces bow thruster to use local battery, avoiding charge system overload.

emergency link start ….. allows engine to be started from service battery bank, timed engagement, remote switch on display.

split charge contactors

The system employs heavy duty contactors, these carry far higher loads than typical VSR relays, making them ideal for emergency engine starting. They also feature a high fault current rupture rating (300 amp to UL508), allowing the disconnection of high current loads at low voltage. The contacts are sealed to IP66, making them suitable for operation in a marine environment, protecting contacts from corrosion and avoiding flash from open contactor units.

emergency link start allows the engine to be started from the service bank for timed period, if the engine battery has a low capacity.

operating voltage units are normally set to standard switching voltages, we are happy to set modules to customer requirements, or they can be adjusted on site. Alternate voltages can be supplied to order, please contact technical section.

operation the alternators are split to allow the engine (alt 1) to charge the starter battery and then connects the bow battery, when this reaches a set voltage the second contactor closes to allow charge to service battery. The alternator 2 is permanently connected to the service battery. The system allows for either alternator to charge all the battery banks, thus if one alternator fails, the remaining one will charge all battery banks. A suitable secondary charge source connected to the service battery will charge both engine start and bow battery.

options to order

contact rating …….. 100 and 350 amp
coil voltage …….. 12 volt DC to 48 volt DC
fresh water gauge …….. display can be supplied to read fresh water tank level on ammeter bar-graph, includes sensor.
remote bow shunt …… . Shunt monitors net charge and discharge for bow battery, it also picks up local battery positive voltage.
display options …… digital readout in addition to bar-graph, amps & volts selectable, engine volts, bow batt charge amps & volts

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bar-graph

The display allows real time charge monitoring of both volts and amps for all batteries, plus it provides a battery level guide to both battery banks. By employing LED bar-graphs all voltages and amperages can be viewed with out the need for selector switch, or waiting for a display to scroll through. Critical battery voltage levels have red LED's to give visual warning, even when not close to display. The ammeter bar-graphs have a bi-colour LED's that shows polarity of current, green for charge, red for discharge, again providing instant warning if a problem

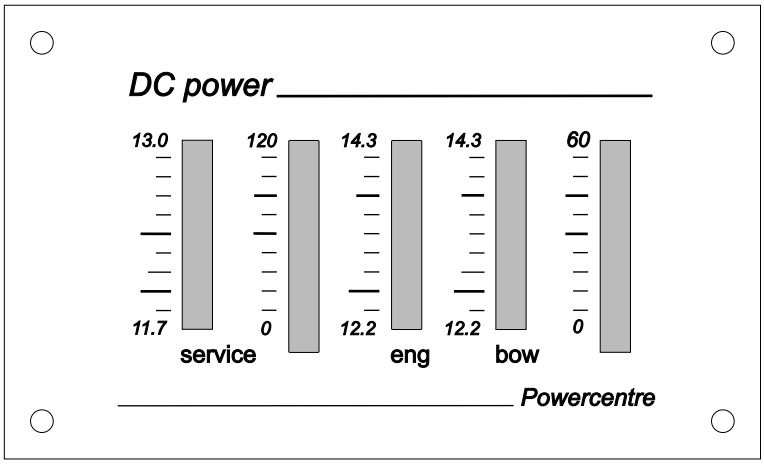
When charging batteries, the optimum recharge level for a system is when the voltage is at maximum and the current is low, easy to see as the bar-graphs are next to each other. At this point the batteries will not be taking any more significant charge, so motoring for longer is now only consuming fuel and money.

High voltage alarm, drives a audio alarm to indicate high charge voltage level, normally set at 15 volt, other values can be supplied factory set.

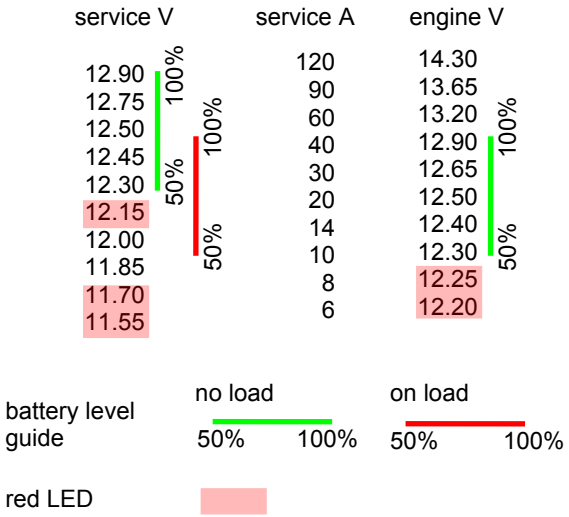
The display can be supplied to display the fresh water tank level on the ammeter bar-graph, it only requires the sensor head to be fitted to water tank. The system has the provision to set gauge reading to match the fresh water tank level.

The display only requires connecting a 6 way data cable matching colour to colour, no shunts or cable modifications required.

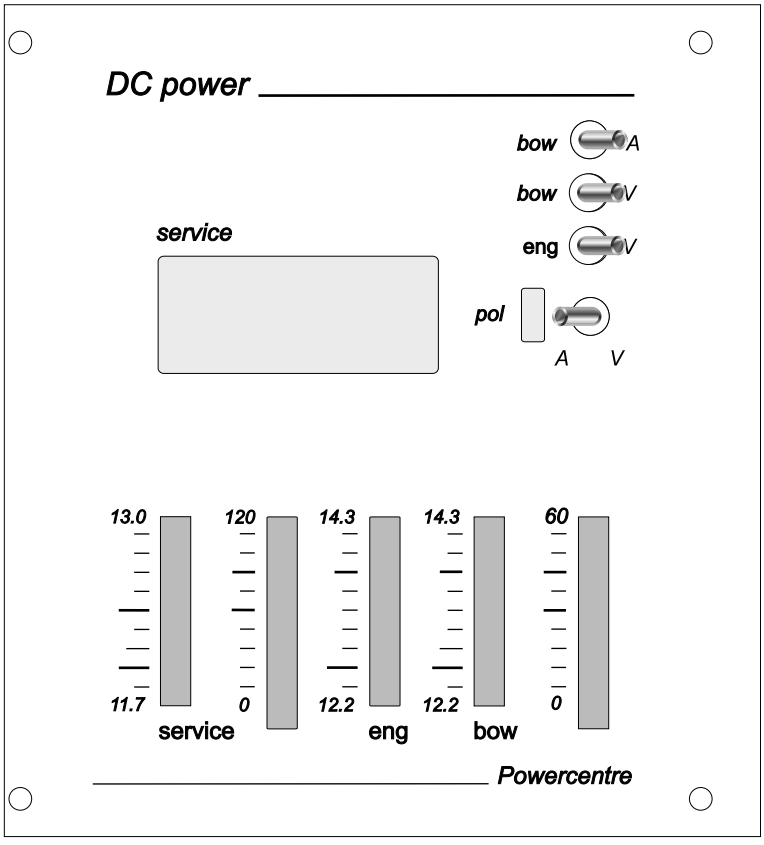
standard display unit ***full size 100 mm x 60 mm x 50 mm deep***



display read-out



Digital / bar-graph display ***full size 175 mm 60 mm x 50 deep***



display options

The bar-graph can be supplied to order with alternate display values to suit a particular charging system, see ***display options*** allowing the display to be matched to the intended use,

logarithmic scale provides a extended scale in the low half, allowing low current monitoring of the completion of charge, or current drain dring use. While the initial high charge current can be monitored on the upper high section.

linear scale, is used for monitoring charge current, or high discharge loads, the meter scale is uniform over the full meter scale.

For non standard options please contact technical section.

alternate display reading

log scale		linear scale	
60	240	100	200
44	175	90	180
31	125	80	160
20	80	70	140
15	60	60	120
10	40	50	100
7	28	40	80
5	20	30	60
4	16	20	40
3	12	10	20

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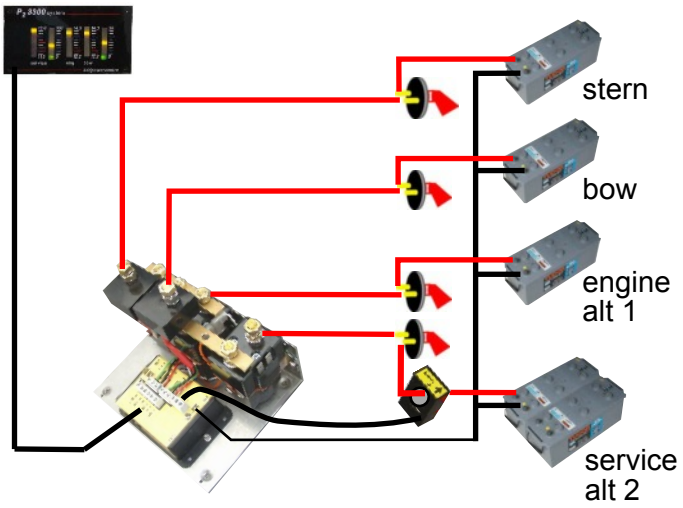
Powercentre

data sheet	P2731
issue date	12/09/13

data sheet single engine, two alternator, four battery bank split charge

12 volt …. P2731 part number …. 12731-800

24 volt …. P2741 part number …. 12741-800



contactor current rating

continuous ……..... 200 amp @ 40 mV / contact / 100 A
engine start ……..... 400 amp intermittent
surge ……..…… 800 amp

operation ……..… bi-directional split charge, standard

connect voltage bow .. 13.8V / 27.6V stern 13.9V / 27.8V
drop-out voltage …….. 13.0V / 26.0V

adjustment ……..... contactor engagement and drop out

protection ……. waterproof to IP66

display

type ……..... 10 dot bar-graph x 8

engine ……. battery voltage
service …….. battery voltage and net amps, charge & discharge

emergency link start … includes button to engage link start timed period.

system protection . . 5 internal PTC fuses, auto re-set

size / weight

contactor .. ……..... 175 x 140 x 135 mm / 1.9 Kgs

display ……..... 175 x 60 x 50 mm / 100 gms

standard pre-fitted options

bow contactor drop out with bow thruster use ……..... forces bow thruster to use local battery, avoiding charge system overload.
stern contactor drop out with stern thruster use …… forces stern thruster to use local battery, avoiding charge system overload.
emergency link start ….. allows engine to be started from service battery bank, timed engagement, remote switch.

split charge contactors

The system employs heavy duty contactors, these carry far higher loads than typical VSR relays, making them ideal for emergency engine starting. They also feature a high fault current rupture rating (300 amp to UL508), allowing the disconnection of high current loads at low voltage. The contacts are sealed to IP66, making them suitable for operation in a marine environment, protecting contacts from corrosion and avoiding flash from open contactor units.

emergency link start allows the engine to be started from the service bank for timed period, if the engine battery has a low capacity.

operating voltage units are normally set to standard switching voltages, we are happy to set modules to customer requirements, or they can be adjusted on site. Alternate voltages can be supplied to order, please contact technical section.

operation the alternators are split to allow the engine (alt 1) to charge the starter battery and then connects the bow battery at 13.8 volt, then the stern battery at 13.9 volt, when this reaches a set voltage the third contactor closes to allow charge to the service battery. The alternator 2 is permanently connected to the service battery. The system allows for either alternator to charge all the battery banks, thus if one alternator fails, the remaining one will charge all battery banks. A suitable secondary charge source connected to the service battery can charge both engine start and bow battery.

options to order

contact rating …….. 100 and 350 amp
coil …… 12 volt DC to 48 volt DC
fresh water gauge …….. display can be supplied to read fresh water tank level on ammeter bar-graph, includes sensor.
remote bow shunt …… . shunt monitors net charge and discharge for bow battery, it also picks up local battery positive voltage.
remote stern shunt ….. . shunt monitors net charge and discharge for stern battery, it also picks up local battery positive voltage.
display options …… custom display with digital readout in addition to bar-graph, amps & volts.

Kddpowercentre, TR11 5TT phone 01326 376938 web www.kddpowercentre.co.uk

bar-graph

The display allows real time charge monitoring of both volts and amps for all batteries, plus it provides a battery level guide to both battery banks. By employing LED bar-graphs all voltages and amperages can be viewed with out the need for selector switch, or waiting for a display to scroll through. Critical battery voltage levels have red LED's to give visual warning, even when not close to display. The ammeter bar-graphs have a bi-colour LED's that shows polarity of current, green for charge, red for discharge, again providing instant warning if a problem

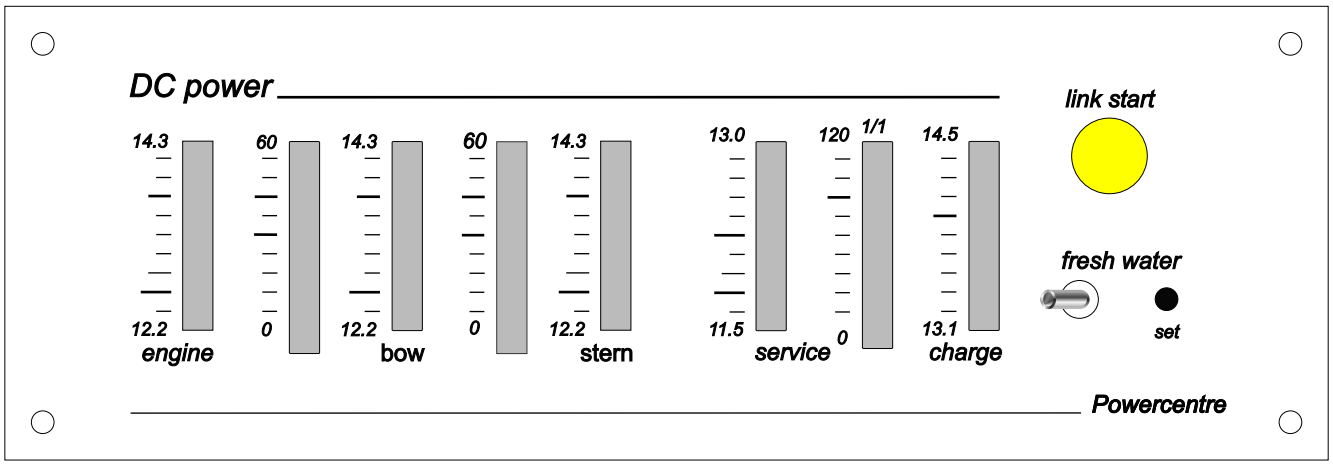
When charging batteries, the optimum recharge level for a system is when the voltage is at maximum and the current is low, easy to see as the bar-graphs are next to each other. At this point the batteries will not be taking any more significant charge, so motoring for longer is now only consuming fuel and money.

High voltage alarm, drives a audio alarm to indicate high charge voltage level, normally set at 15 volt, other values can be supplied factory set.

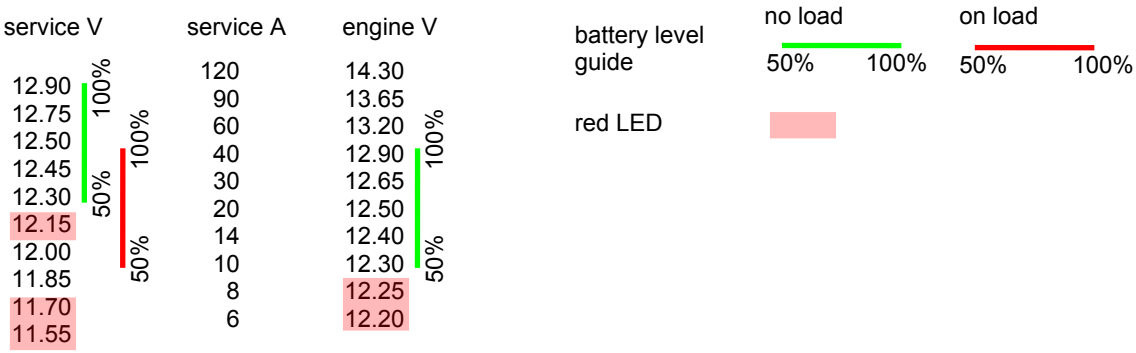
The display can be supplied to display the fresh water tank level on the ammeter bar-graph, it only requires the sensor head to be fitted to water tank. The system has the provision to set gauge reading to match the fresh water tank level.

The display only requires connecting a 8 way data cable matching colour to colour, no shunts or cable modifications required.

standard display unit ***full size 175 mm x 60 mm x 50 mm deep***



display read-out



display options

The bar-graph can be supplied to order with alternate display values to suit a particular charging system, see ***display options*** allowing the display to be matched to the intended use,

logarithmic scale provides a extended scale in the low half, allowing low current monitoring of the completion of charge, or current drain during use. While the initial high charge current can be monitored on the upper high section.

linear scale, is used for monitoring charge current, or high discharge loads, the meter scale is uniform ove the full meter range.

digital readout for all functions can be supplied to supplement the bar-graph display, allowing detail examination of volts or amps.

For non standard options please contact technical section.

alternate display scaling

log scale		linear scale	
60	240	100	200
45	175	90	180
30	125	80	160
20	80	70	140
15	60	60	120
10	40	50	100
7	28	40	80
5	20	30	60
4	16	20	40
3	12	10	20