



EXTENDING WIRES FOR YOUR WS500

Note: Which wire needed depends on if the WS500 is located near the Alternator or near the battery

SUGGESTIONS FOR EXTENDING WIRES

VBat+ and VBat - (Red/Black with Yellow stripes): Extend with 14g cable.

**If present reference VAN harness*

Shunt + and Shunt - (Purple/Gray): Extend using Twisted Pair wire, 'Instrument Cable' is an appropriate choice. Shielded can be used, and if so do make sure the shield is properly grounded only on one end.

Alt+ and Alt - (Red and Black): Use 14g cable. 12g if the distance is say over 20'

Field and Stator - (Blue and Yellow). Use a 14g. Consider using 12g if distance is over 20'.

Temp Sensors - (ATS and BTS): These can be extended, but care must be taken to avoid cross-talk. Most common is routing an extended ATS next to the Field wire/stator wires, this creates noise and miss-readings in temperature sensing. You want to assure there is at least 4" separation between an extended Temp Sensor and any potential noise source. However, the best practice is to use a shielded instrument cable to extend, grounding the shield again on one end. One way to splice in temp sensor extension is to cut the standard harness a few inches from the existing temperature sensor connector and then splice in any extension into that cut. This way the extended cable will have the proper connector for the temperature sensor.

Enable, Feature-in - (Brown, White): 14g is recommended, 16g can be used if desired.

CAN - (Green / Yellow pair): If Present: Use 100 Ohm CAN Compliant Twisted Pair if needed. Consider using DTM back-bones, or NMEA2000 adapter connecting to a NMEA2000 backbone as opposed to extending the Green/Yellow drop.

(<https://www.wakespeed.com/product/can-adaptor-m12/>)

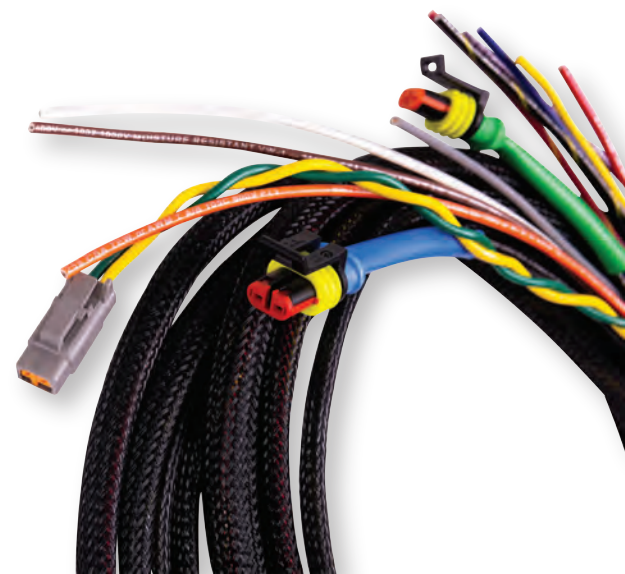
Feature Out - (Orange): 14g is recommended. 16g can be used if the load is small.

Note: On the VAN harnesses the two battery connections are joined with the Alternator wires (Bat and Alt). This should not be extended. Use the Van Red/Black wires in their current form (with appropriate fusing of course) and do not extend them (A little is OK, but in general, do not extend). If the customer needs to extend that for some reason they should just use the standard harnesses and extend as above.

INSTALLERS CHOICE:

STRANDED/TINNED WIRE:

Best practice in the marine world is to use finely stranded wire that is tinned for vibration and corrosion resistance. The automotive sector still uses stranded wire, but less fine –and often forges the tinning. This decision is the installer's choice and shop practices.



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