

56 D-CELL BATTERIES

Technical Note

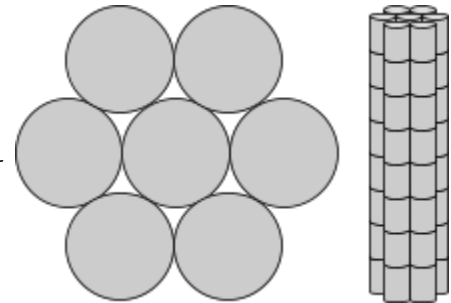
While the Wirewalker utilizes wave-power, external battery canisters are commonly integrated to extend sampling endurance. The form factor and capacity of welded 56 D-cell packs have proven to be a good fit for Wirewalker applications. The following information is provided as a guide for locally sourcing your own battery packs. In most cases, DMO will provide a suitable Alkaline battery pack with new Wirewalker purchases. Of course, you can continue to source batteries from DMO, but it will likely be much more efficient and cost effective to have them locally manufactured.

When sourcing your own battery packs, DMO recommends:

- Confirming the pack voltage is compatible with the sensor configuration
- Ensuring that high quality batteries are used (i.e. name brands with high capacity)
- A reputable battery pack manufacturer is used
- If packs are used in parallel, they should be identical and new
- If chemistries other than Alkaline are used, great care should be taken to ensure they can be utilized safely and supply the required current for your instrumentation.

There are many ways to specify the voltage and capacity of a welded battery pack. DMO generally uses “nominal” values based on standard Alkaline D-Cell Specs:

- Voltage: 1.5 V per cell
 - Capacity: 15 Ah per cell
- * Typical capacity can actually range from ~12-18Ah. Some instrument mfgs recommend derating capacity to 15 Wh per cell based on 1.0V * 15Ah.*
- Pack OD: 103 ±2.5 mm (2-3-2 configuration)
 - Pack Length: 494 ±3 mm (8 cells tall)
 - Lead wires: 18AWG Red (+) & Black (-), 300mm ±15mm length, terminated with Molex 03-06-1023 connector with Molex 02-06-5103 Female crimp terminal or equivalent. With fuse on +. Pin 1: Black wire (-), Pin 2: Red wire (+).
** 24V sections utilize Molex 03-06-1032 (3 position) to differentiate.*



Description	Pack Voltage	# of Cells Used	# of Cells in Series to achieve Voltage	# of “clusters” in Parallel (each cluster should be diode protected)	Maximum Pack Capacity (Wh)	Recommended Derated Pack Capacity (Wh)
12 V pack	12 V	56	8	7	1260	1000
12/24 split pack, v1	12 V section	24	8	3	540	425
	24 V section	32	16	2	720	575
12/24 split pack, v2	12 V section	8	8	1	180	140
	24 V section	48	16	3	1080	860
21 V pack	21 V	56	14	4	1260	1000

12V packs are used for most applications.

12/24V split packs are used when there’s a combination of voltage needs; such as when using a RBR SSM (needs 12V) and a Nortek Signature1000 (12-48V spec, but it really needs >15V when battery powered).

21V packs are used when powering only a Signature1000, or when other sensors are also present and can all handle the higher voltage.