

Daveytronic® OP

Electronic Detonator Blasting System

DESCRIPTION

The Daveytronic® OP Digital Blasting System consists of four components:

- Electronic Detonators
- Remote Blaster (DRB)
- Programming Unit (PU)
- Blast Driver (DBD)

The DRB communicates, tests, and manages the firing procedure.

The PU identifies, tests, and programs each detonator.

The DBD communicates wirelessly with the DRB to fire the blast.



DAVEYTRONIC® OP SYSTEM TECHNICAL CHARACTERISTICS

	Remote Blaster (DRB)	Blast Driver (DBD)	Programming Unit (PU)
Weight lb (kg)	4.0 (1.8)	4.2 (1.9)	2.7 (1.2)
Size (in-mm)	9.4" x 7.5" x 1.3" – 240 x 190 x 32	7.3" x 7.3" x 2.2" – 185 x 185 x 55	8.7" x 5.5" x 1.3" – 220 x 140 x 32
Available Languages	English, French, Spanish, Portuguese	English, French, Spanish, Portuguese	English, French, Spanish, Portuguese
Event Records	Procedure history file, line data logger	Procedure history file, line data logger	-
Safety Key	Unique RFID security tag	-	-
Firmware Upgrade	Through USB port	Through USB port	Through USB port
Battery Type	Li-Ion Technology	Li-Ion Technology	Li-Ion Technology
Battery Autonomy	4 hours – Battery Level Indicator	4 hr on stand-by + 1 hr in talk mode	8 hours – Battery Level Indicator
Charger	Input – 100-240 VAC : 50/60 Hz : 2.0 A – Output 10-12 VDC – Rated Current: 4A max – Charging Time: 3 hours up to 4 units		
Ingress Protection Rating	IP65	IP67	IP65
Display	5.7" TFT Color QVGA with backlight	4 Status LED Indicators	3.5" FSTN B&W with backlight
Keyboard	14 keys with backlight	-	18 keys with backlight
Integrated Speaker	Vocal Instruction – Beeps	-	Beeps
Communication Ports	RS232, USB, RFID, Ethernet	RS232, USB, RFID, Ethernet	USB, RFID, Ethernet
Device Capacity	Up to 800 detonators	Up to 800 detonators	800 detonators
Wireless Range	Up to 4,920 feet or 1,500 meters : Subject to environmental conditions		
Communication Frequency	923 MHz		
Operating Temperatures	Operating: -4° F to +122° F or -20° C to +50° F – Charging: +32° F to + 104° F or 0° C to +40° C		
Storage Temperatures	-40° F to 158° F or -40° C to +70° C		
Waterproof Transport Case	Pelican 1520 Black		

DAVEYTRONIC® OP SYSTEM OPERATIONAL CHARACTERISTICS

Detonators	Only to be used with DaveyTronic® OP Detonators
Single Blast Mode	Up to 800 detonators
Programming Modes	2 modes available: Manual – Incremental
Connection between Firing Line and DRB	Wire or Radio
Accessories / Wires	OP Blasting System shall only be used with authorized BUS, Harness, or Bell wire

DAVEYTRONIC® OP DETONATOR TECHNICAL CHARACTERISTICS

Detonator Base Charge	PETN – 800mg (#8 Cap Strength (USBM))
Detonator Primary Charge	Primary Explosive – 200mg
Detonator Shell	Aluminum
Lead Wire	Std Wire: Ø = 0.3mm steel – Orange Polyethylene Folded Wire: Ø = 0.5mm steel – Pink Polyethylene
Connector	Polypropylene – Silicone waterproof gel : Hydrocarbon Compatible
Radio Frequency Resistance	EN13763-27 Compliant Up to 30 V/m for 80 MHz to 2 GHz bandwidth
ESD Resistance	EN13763-13 (cl. II) Compliant 30 kV / 3500 pF

Products described herein are potentially hazardous and must be used in accordance with applicable health and safety standards, federal and state laws, rules and other statutory or regulatory provisions. Personnel using Daveytronics® should undertake specific training in the use and handling, relevant to their application. The manufacturer cannot anticipate all of the possible applications for its products. The information is believed to be accurate, though no warranties are made, expressed or implied.

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DAVEYTRONIC® OP DETONATOR PERFORMANCE CHARACTERISTICS

Delay Range	0 – 14000 ms in 1 ms increments
Communication	Two Way Communication, fully testable with two capacitor concept
Accessories / Bus / Wire	OP detonators should only be used with approved Bus / Harness / Bell wire
Water Resistance	13 bar for 7 days (spooled) – 4 bar for 7 days (folded)
Dynamic Shock Resistance	>15,000 psi or 1,000 bar (Al Shell)
Wire Tensile Strength	STD wire = 72 lb or 320 N : Folded wire = 40 lb or 180 N
Wire Abrasion Resistance	Surpasses EN 13763-4 (class II)
Operating Temperatures	-4° F to 113° F or -20° C to +45° C : Tested to 158° F or 70° C in emulsion
Storage Temperatures	-40° F to +158° F or -40° C to +70° C
Shelf Life	2 years

DAVEYTRONIC® OP SAFETY AND SECURITY

The Daveytronic® OP Digital Blasting System is designed for complete safety throughout the blasting process. The detonators utilize two capacitors; one for communication and one for firing. The exclusive Smartshunt isolates the fuse head until the firing command has been received. The detonators have excellent protection against electromagnetic pulse and electrostatic discharge. The system performs continuous testing procedures up to the firing command, has an electronic safety lock to authorize the firing command, and uses “pre-blast equipment coupling” ensuring immunity to outside RF device interference.

The Daveytronic® OP Digital Blasting System features a proprietary encoded communications protocol for both firing line control and wireless data transmission. The embedded RFID technology and the unique tracking number ID for each detonator ensures an even more secure system.

DAVEYTRONIC® OP DETONATOR PACKAGING INFORMATION

Wire Length – ft (m)	OP Detonators	
	Std Wire	
	Units per Box	Gross Wt – lb (kg)
20' (6m) Folded or Spooled	112	22.0 (10.0)
26' (8m) Folded or Spooled	96	22.0 (10.0)
33' (10m) Folded or Spooled	96	26.4 (12.0)
20' (6m) Spooled	80	12.1 (5.5)
33' (10m) Spooled	80	15.4 (7.0)
49' (15m) Spooled	72	17.6 (8.0)
65' (20m) Spooled	72	20.9 (9.5)
82' (25m) Spooled	72	24.2 (11.0)
98' (30m) Spooled	64	25.3 (11.5)
131' (40m) Spooled	56	27.5 (12.5)
164' (50m) Spooled	20	15.4 (7.0)
Packaging Size	Spooled – cardboard box: 17.7" x 9.0" x 11.8" (1,880 in ³) or 45 x 23 x 30 cm (0.031 m ³) Folded – cardboard box: 16.9" x 15.8" x 12.6" (3365 in ³) or 43 x 40 x 32 cm (0.055 m ³)	

Transportation and UN
Numbers

UN 0456
Class 1 Division 4
1.4S

