Enaex

Daveytronic® UG | Electronic Detonator Blasting System

DESCRIPTION

The Daveytronic® UG Digital Blasting System consists of four components:
- Electronic Detonators
- Remote Blaster (DRB2)
- Programming Unit (PU)
- Blast Driver (DBD)

The DRB2 communicates, tests, and manages the firing procedure.
The PUs identify, test, and program each detonator.
The DBD communicates wirelessly with the DRB2 to fire the blast.

DAVEYTRONIC® UG SYSTEM TECHNICAL CHARACTERISTICS

	Remote Blaster (DRB2)	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	-	-
Second Safety Firing Key	Optional	-	-
GNSS Positioning	Optional Module	-	-
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: 4 hours up to 4 units		
Ingress Protection Rating	IP65	IP67	IP65
Display	5.7” TFT Color QVGA with backlight	LED's	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, RS485, USB, RFID, Ethernet	RS232, RS485, USB, RFID, Ethernet	USB, RFID, Ethernet
Device Capacity	1,500 detonators	1,500 detonators	1,000 detonators
Local Network Compatibility (external modem)	WIFI (IEEE 802.11)* - Leakyfeeder* - Optic Fiber* SHDSL Modem* - Wired Network*		
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 Yellow – 19.7” x 15.7” x 9.8” or 50 x 40 x 25 cm : 29 lbs – 13 kg (1 DRB2 + 1 DBD + 2 PUs) Pelican 1600 Yellow – 25.6” x 20.5” x 9.8” or 65 x 52 x 25 cm : 37 lbs – 17 kg (1 DRB2 + 3 DBD or 6 PUs)		
Waterproof Modem Case	Pelican 1450 Yellow – 16.9” x 11.8” x 13.8” or 43 x 30 x 35 cm : 19 lbs – 8.6 kg (1 DBD + 1 Modem + Acc)		
* External modem compatibility must be confirmed with Enaex Technical Support			

DAVEYTRONIC® UG SYSTEM OPERATIONAL CHARACTERISTICS

Detonators	Only to be used with DaveyTronic® UG Detonators
Single Blast Mode	Up to 1,500 detonators
Multi-Blast Mode	Maximum of 8 DBDs managed by one DRB2 (additional DBDs available)
Synchro-Blast Mode	Up to 4,500 detonators in one blast (additional DBDs available)
Programming	Maximum of 6 PUs managed by one DBD
Connection Modes	4 modes available: One by One – Easy One by One – On Line – Easy On Line
Programming Modes	3 modes available: Manual – Incremental – Automatic upload from compatible planning software
Connection between DBD and DRB2	Hard wired, external modem, or internal modem
Accessories / Wires	UG Blasting System shall only be used with approved Bus, Harness, or Bell wire

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DAVEYTRONIC® UG DETONATOR TECHNICAL CHARACTERISTICS

Detonator Base Charge	PETN – 800mg (#8 Cap Strength (USBM))
Detonator Primary Charge	Primary Explosive – 200mg
Detonator Shell	Copper Alloy or Aluminum
Lead Wire	Std Wire: Ø = 0.3mm steel – Orange Polyethylene HD Wire: Ø = 0.5 mm Cu/Fe – Red Polypropylene Folded Wire: Ø = 0.5mm steel – Pink Polyethylene XO Wire: Ø = 0.5mm Cu/Fe – Polypropylene with a Blue PVC Overlay
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

DAVEYTRONIC® UG DETONATOR PERFORMANCE CHARACTERISTICS

Delay Range	0 – 14000 ms in 1 ms increments
Blasting System	DaveyTronic® Blasting System
Communication	Two Way Communication, fully testable with two capacitor concept
Accessories / Bus / Wire	SP detonators should only be used with BUS / Harness / Bell wire
Water Resistance	13 bar for 7 days (spooled) – 4 bar for 7 days (folded)
Dynamic Shock Resistance	>20,000 psi or 1,400 bar (Cu Shell) : >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 : HD wire = 95 lbs or 430 N : XO wire = 95 lbs or 430 N
Wire Abrasion Resistance	Surpasses EN 13763-4 (class II)
Operating Temperatures	-40° F to 113° F or -40° 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® UG SAFETY AND SECURITY

The Daveytronic® UG 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® UG 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.

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DAVEYTRONIC® UG DETONATOR PACKAGING INFORMATION

Label Color	Wire Length (ft)	UG Detonators					
		Std Wire		HD Wire		XO Wire	
		Units per box	Gross Wt - lb (kg)	Units per box	Gross Wt - lb (kg)	Units per box	Gross Wt - lb (kg)
	13' (4m) Folded	144	19.8 (9.0)	-	-	-	-
	20' (6m) Folded or Spooled	112 or 80	22.0 (10.0)	-	-	64 Spooled	23.1 (10.5)
	26' (8m) Folded or Spooled	96 or 80	22.0 (10.0)	-	-	-	-
	33' (10m) Spooled	80	15.4 (7.0)	80	17.6 (8.0)	56	29.8 (13.5)
(pink)	49' (15m) Spooled	72	18.8 (8.5)	72	22.0 (10.0)	36	29.8 (13.5)
(green)	65' (20m) Spooled	72	22.0 (10.0)	72	27.5 (12.5)	30	32.0 (14.5)
(green)	82' (25m) Spooled	72	25.3 (11.5)	72	31.9 (14.5)	-	-
(blue)	98' (30m) Spooled	64	25.3 (11.5)	64	33.0 (15.0)	16	23.1 (10.5)
(blue)	115' (35m) Spooled	56	25.3 (11.5)	56	33.0 (15.0)	-	-
(red)	131' (40m) Spooled	56	27.5 (12.5)	56	35.2 (16.0)	16	28.7 (13.0)
(black)	164' (50m) Spooled	36	23.1 (10.5)	36	29.8 (13.5)	16	35.3 (16.0)
(yellow)	197' (60m) Spooled	36	35.3 (16.0)	20	22.0 (10.0)	12	35.3 (16.0)
	262' (80m) Spooled	30	33.0 (15.0)	16	22.0 (10.0)	-	-
	330' (100m) Spooled	16	20.9 (9.5)	-	-	-	-
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 (0.055m^3)					

Transport and UN Numbers

UN 0456
Class 1 Division 4
1.4S

1.4 EXPLOSIVES S 1