

DIVE COMPUTER

& DECOMPRESSION ALGORITHM

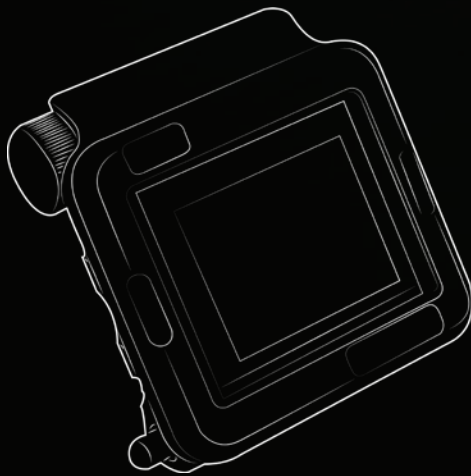
Since the introduction of its first datalogging air dive computer in the late 1980's through to the World's first mixed gas decompression algorithms, Avon Underwater Systems have been at the forefront of diving computer designs and decompression physiology.

Through our ties with Academia we continue to pioneer decompression thinking. Probabilistic decompression modeling, advanced data handling and communication systems are also core elements of our expertise, paving the way for the life support monitoring systems of the future.

All computer products are fully reconfigurable and client decompression tables and procedures can be included.

STANAG compliant systems are also an option.

Our computer platforms are also deployed as real-time data/decompression loggers in surface supply diving operations.



GR12421 - EMEA/AUS-DIVE-COMPUTER/DS/160215

Avon Protection - Underwater Systems

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Feature	NATO Dive Computer	Feature	NATO Dive Computer
Gases	Air, Nitrox, Trimix, Heliox	Backlight	LED with user selectable AUTO and USER adjust modes. Auto-dim feature (power save)
Configuration	Open circuit, closed circuit (CC), semi-closed circuit (SC). SC and CC modes with external PO2 sensor input to drive decompression or fixed PO2.	Display protection	Raised surround with replaceable adhesive protection screen
Identification	Each unit has a unique ID	Switches	3 control switches (Next, Select Home). Tactile feedback with illumination to identify feature selection.
Temperature ranges	<ul style="list-style-type: none"> Operating Temperature Range: +4°C to +32°C Short-Term (hours) Temperature Range: -10°C to +50°C Long-Term Storage Temperature Range: +5°C to +20°C 	Alarm type	Visible on screen and audible
Construction	Injection molded plastic. Oil filled with compatible depth sensor packaged internally (not exposed to sea water). User replaceable battery compartment Rebreather handset connector interface (option)	STANAG compliant (low magnetic signature)	Optional (some features may vary)
Carry case	Water proof hard-case	External connections	<ul style="list-style-type: none"> Bluetooth data download Wireless HP sensor (option) Wireless, 1-3 PO2 sensors (option)
Depth rating	150m (calibrated)	Gases Number	10 gases with feature to change mix while diving if needed. Decompression prediction is based on current gas list with auto-recalculate if mix changes.
Turn on system	Depth >0.3m activated	Gas switch modes	Manual. Based on display alarm, user button activation and user pre-defined MOD of gas. Auto. Based on the above with an automatic switch at the MOD with option to over-ride AUTO mode.
Turn off system	Auto – depth <0.3m for 10 minutes Manual – user selectable	Gauge mode	Yes. Gauge mode only entered after desaturation = zero. New algorithm dive possible after last gauge mode dive +24 hours.
Client customisation	Customisation is possible based on client requirements.	Oxygen pre-load before dive calculation	Oxygen algorithm option
Battery system	<ul style="list-style-type: none"> User replaceable 3.6v AA battery Battery life with backlight set to minimum is 35 hours diving. Battery status display with charging indicator 	Surface interval effects calculated in dive, dive planning and simulator modes	Yes
Mounting system	<ul style="list-style-type: none"> Wrist strap (standard) Lanyard adapter (optional) 		
Display type	High resolution LCD		

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Dive display features	<ul style="list-style-type: none"> • Maximum depth (secondary info. screen) • Current depth • Dive time • Depth of the next decompression • Time of the next decompression stop • Depth and time of all decompression stops (secondary info. screen) • No-stop dive time • Total decompression time (Time To Surface –TTS, including ascent @10m/min) • Predicted TTS @+5 minutes (secondary info. screen) • Rate of ascent • Breathing mixture used (secondary info. screen) • PO2 used (fixed PO2 in CC mode) • PO2 (1-3 sensors) measured PO2 in external PO2 CC mode • Temperature (secondary info. screen) • CNS % (secondary info screen) • OUT's (secondary info screen) • Equivalent Gradient factor (secondary info. screen) • Flytime • Total desaturation time • Decompression ceiling display (non-fixed stop decompression mode) • PO2 sensor • Atmospheric pressure (secondary info. screen) • Diluent PO2 at current depth 	Logbook display	<ul style="list-style-type: none"> • Max. depth • Total dive time • Any violated decompression • Surface interval • Gases used • PO2(s) used • Current CNS load (after surface interval) • A dive graph of depth and time • A dive graph of PO2 (external sensor – CC mode) and time. • A dive graph of temperature versus time. • Equivalent Gradient factor • Atmospheric pressure
NB. Display features are customisable and altered to fit end user requirements.		Dive log memory	Expandable up to 10gb
User selectable features (via menu system)	<ul style="list-style-type: none"> • User selection of dive display items (depth, time, temperature, TTS etc.) • Adjustment of dive display (portrait mode) for lanyard attachment. • Shallow decompression stop (3m or 4.5m) • Decompression ceiling mode • CNS% alarm limit • Units (metric/imperial) • Backlight modes • Algorithm • Maximum dive time (generates an alarm) • Sea or fresh water depth display • Manual turn off (time setting/immediately) 	Algorithms	Switchable at surface between; <ul style="list-style-type: none"> • US Navy (option) • Buhlman ZHL16C • Avon Underwater Systems Variable gradient Model algorithm (Buhlman ZHL16C based with variable gradient factors overlay)
			• Customer algorithms can also be uploaded.
		Decompression lock-out	No lock-out after violated decompression. Re-entry into water will provide 'best guess' decompression with 'missed decompression' warning.
		Altitude setting	Automatic
		'On-dive computer' planning mode	<ul style="list-style-type: none"> • Next dive entry after current or selectable interval and current inert gas load. • Dive mode switch – OC to CC/SC etc. • Next dive gas selection • Pre-dive oxygen breathing calculation (to be defined)

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Feature	NATO Dive Computer	Feature	NATO Dive Computer
PC interface	Bluetooth	Reprogramming mode	Via web based application
PC interface software features	<div>Web based system to include;</div> <div>Download all dive data including;</div> <div><div><div>• Depth</div><div>• Time</div><div>• PO2 (external sensors- CC mode)</div><div>• Gases used</div><div>• Date</div><div>• Dive start time</div><div>• Dive number</div><div>• Algorithm used</div></div></div> <div>Upload set up information including;</div> <div><div><div>• Gases to use</div><div>• MOD of gases</div><div>• Safety factor</div><div>• Algorithm selection</div><div>• Imperial/Metric units</div></div></div> <div>Data recovery</div> <div><div><div>• Print of any dive with data overlay</div><div>• Export of data</div><div>• Web upload to community site</div></div></div> <div>Planning mode</div> <div><div><div>• Next dive entry after current or selectable surface interval and current inert gas load.</div><div>• Dive mode switch – OC to CC/SC etc.</div><div>• Next dive gas selection</div><div>• Pre-dive oxygen breathing calculation</div></div></div>	<div>Resettable average depth mode (GUE)</div> <div>Resettable average depth for tabular decompression calculation. Decompression lockout rules as per gauge mode.</div> <div>PO2 setpoint</div> <div>Variable user selectable PO2 (surface and submerged) between 0.5 and 2.0 PO2). Toggle mode between 2 setpoints defined by user.</div> <div>Alarms</div> <div><div><div>• MOD of gas</div><div>• Gas switch advised</div><div>• CNS limit</div><div>• Ascent rate <10m/min</div><div>• Low PO2 <0.4</div><div>• High PO2 >1.6</div><div>• Low battery</div><div>• Dive time reached (user selectable)</div><div>• Missed decompression</div><div>• Hypoxic mixture at current depth (OC mode)</div></div></div> <div>Simulate mode</div> <div>On-unit simulate mode to allow user training.</div> <div>Dive planning mode</div> <div>On-unit dive planning based on current gas list, user selectable surface interval and prior dives tissue loading.</div> <div>Multi language</div> <div>Language expansion pack (optional)</div> <div>Compass</div> <div>Navigation display (optional) for;<div><div><div>• Current heading</div><div>• Reciprocal heading</div></div></div></div> <div>Date/Time</div> <div>User setting of date/time</div>	

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