

# PROD1187 ICU

## *Integrated Communications Unit*

*A rugged multi-functional and configurable communications unit for collision awareness, location and heading applications.*



### **Features**

- *Modular internal design to maximise configurability and functionality with any three of the following interface options:*
  - *Multiple GNSS options from high to Ultra-high precision with static heading*
  - *Short-Range Device (SRD) Radio - ordered for specific geographic region*
  - *High accuracy IEEE 802.15.4a ToF equipped*
  - *Optional High accuracy IEEE 802.15.4-2011 UWB equipped*
- *CAN bus IN/OUT communication on 6 pin Deutsch connectors for simple networking*
- *Universal mounting arrangement*
- *With two units linked with a Wabtec CAS-GPS system supports self-test for real-time health monitoring & reporting*

### Specifications

<b>Power</b>	6-18Vdc; 9W (Max)	
<b>Main interface</b>	2 x Deutsch DT series 6-pin connector – refer connection table	
<b>RF Connections</b>	Up to 2x TNC connectors (GPS), 2 x N-connectors (for fixed or remote antennas)	
<b>V2V SRD Radio</b>	up to 100mW option	
<b>Operating frequencies</b>	864.5MHz, 866MHz, 869.525MHz, 902-928MHz (depends on Regulatory Authority)	
<b>GNSS</b>	The product is offered in two variants: High (H) and Ultra-High (U) Precision	
<b>Product variants</b>	<b>High Precision (PROD1187-nmH-)*</b>	<b>Ultra-High Precision(PROD1187-nmU-)*</b>
<b>GNSS antenna connections</b>	1xTNC	2xTNC
<b>Rx Channels</b>	184	448
<b>GPS</b>	L1, L2	L1, L2
<b>GLONASS</b>	L1, L2	L1, L2
<b>Galileo</b>	E1, E5	E1, E5
<b>BeiDou</b>	B1, B2	B1, B2
<b>QZSS</b>	L1, L2	L1, L2
<b>SBAS</b>	Not applicable	L1
<b>Accuracy (CEP<sub>50</sub>)</b>	<b>Horizontal</b>	<b>Horizontal</b>
	<b>Standalone</b> 1.5m - - <b>RTK</b> 1.0cm	<b>Standalone</b> 1.0m <b>SBAS</b> 0.5m <b>DGNSS</b> 0.3m <b>RTK</b> 0.5cm
<b>PVT Update rate</b>	20Hz (2 concurrent constellations)	100Hz/ 50Hz with heading (all constellations)
<b>Static Heading (1σ)</b>	Better than 1°, 1m separation (requires secondary receiver, using moving-baseline RTK, 8Hz)	0.15°, 1m separation (dual antennas, standalone)
<b>Enhanced robustness</b>		anti-jamming and monitoring against narrow and wideband interference advanced scintillation mitigation a posteriori multipath estimator for code and phase multipath mitigation superior tracking robustness under heavy mechanical shocks or vibrations
<b>Size</b>	160 wide x 110 high x 70mm deep (basic), Mounting Footprint 142x64mm (suits 4 x M5 SHCS)	
<b>Weight</b>	1kg	
<b>IP Rating</b>	IP66	
<b>Storage Temp.</b>	-40°C to +85°C	
<b>Operating Temp.</b>	-40°C to +75°C	
<b>*</b>	See part number reference	

**Markets (Pending Regulatory Approval)**

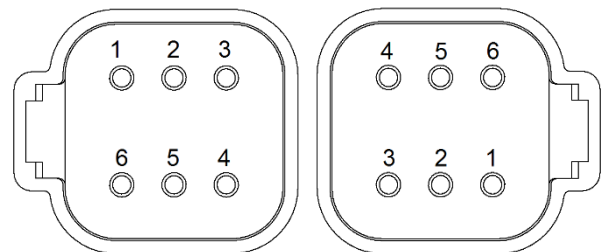
Country	Australia	USA	S/Africa	Canada
Regulatory Authority	ACMA	FCC	ICASA	ISED
<b>Order Code</b>	<b>AUS</b>	<b>USA</b>	<b>ZAF</b>	<b>CAN</b>
Country	Chile	Europe	Brazil	Russia
Regulatory Authority	SUBTEL	CE	ANATEL	ROSSVYAZ
<b>Order Code</b>	<b>CHL</b>	<b>EUR</b>	<b>BRA</b>	<b>RUS</b>
Country	PNG	India	Mexico	Indonesia
Regulatory Authority	NICTA	WPC	IFETEL	POSTEL
<b>Order Code</b>	<b>PNG</b>	<b>IDN</b>	<b>MEX</b>	<b>IND</b>
Country	Peru	Colombia	Ghana	Mozambique
Regulatory Authority	MTC	CRC	NCA	INCM
<b>Order Code</b>	<b>PER</b>	<b>COL</b>	<b>GHA</b>	<b>MOZ</b>
Country	Mongolia			
Regulatory Authority	CRC			
<b>Order Code</b>	<b>MNG</b>			

**Part Number Reference**

Item #	Description
<b>PROD1187-①②③-Code</b>	Unit can be configured to match individual country requirements
① Radio module 1	V = V2V
② Radio module 2	T = ToF W = Wideband
③ GPS type	H = High precision (1 x TNC); U = Ultra-high precision (2 x TNC) X = no GPS fitted
<b>Examples</b>	PROD1187-VTU-AUS PROD1187-VWX-ZAF

**Connections**

Pin	Signal	Function
1	PWR	Power
2	CAN_H	CAN bus high
3	CAN_L	CAN bus low
4	GND	Ground
5	PPS+	PPS positive
6	PPS-	PPS negative



**Accessories**

<b>PROD1182</b>	Power Control Unit
<b>PROD0832</b>	ToF antenna 2.4GHz 3dBi
<b>PROD1196</b>	V2V antenna 865-930Mhz 3dBi
<b>PROD1222</b>	GNSS antenna – dual band
<b>MISC0467</b>	GNSS antenna – triple band
<b>PROD1190</b>	CAN bus terminator
<b>PROD1188-05RS</b>	Antenna patch cable TNC straight plug to TNC right angle plug
<b>MISC0491</b>	Pole Mount
<b>STEE0769</b>	Mount plate

**Contact**

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