RACELINK GPS vs CLUB vs PRO

RaceLink GPS

- Lowest Purchase Cost
- Accurate GPS positioning & speed measurement
- Long battery life for extended use applications

RaceLink Club

- Cost effective solution for flagging
- Accurate GPS positioning & speed measurement
- Long battery life, with option to connect to power for extended use applications e.g. Endurance
- Limited CAN messaging - suitable for low level 2-way data.

RaceLink Pro

- Professional solution for extended 2-way communication & flagging with LED bar / external display
- Highest accuracy GPS positioning & speed measurement
- Connect to power for permanent installation in higher level series & extended use applications
- Fully configurable CAN messaging – for high level 2-way data.

X2 RACELINK – DEFINITIONS

Specifications	Definition
Battery life	Maximum battery life from fully charged state
Bluetooth (mode)	Firmware updates, settings and diagnostics via Bluetooth
Built-in LED bar	On RaceLink Pro, LED's are only for status information, not flagging
CAN broadcast	Data sent as it received (streamed), with no acknowledgement of receipt e.g. live sensor data, - in number of messages per second
CAN bus configuration	Able to configure the CAN messages to specific outputs
CAN queue	Sequential data (with timestamp) which will be sent until it has been acknowledged as received - no. of messages per second
External antennas (SMA)	Possible (for Pro, required) to connect external RF & GNSS antennas
External LED bar option	Connection of external LED bar via Y-cable
External power option	The option to permanently connect the RaceLink to an external power source
G-force sensor	Commonly referred to as an accelerometer – monitors proper acceleration (G-force) to detect sudden changes e.g. impacts
GNSS tracking	The rate (in Hz) that the chipset and Global Navigation Satellites System communicate to establish the device location
GNSS triggers	Ability to internally use predetermined GNSS positions to calculate, store and report via a CAN message
Internal antennas	Built-in RF & GNSS antennas
IP Rating	Ingress Protection rating – specification of extent of protection against environmental conditions e.g. dirt, moisture etc
LED bar auto brightness	Brightness adjusts according to light sensor at the rear of the RaceLink
Maximum Throughput	The max rate at which the RaceLink will communicate with the BaseLink network – measured in messages / sec
Message	8bit of data in a single communication
On-board LED marshalling	Ability to receive and display flags (via on-board LED or external device)
Speed measurement	Calculation of current speed using GNSS positions and time

X2 RACELINK – FEATURE SUMMARY

RaceLink GPS

- GNSS (GPS) Position Tracking – 5Hz
- Speed Measurement
- Internal RF & GNSS antennas
- Battery life up to 16h
- Bluetooth mode for wireless firmware updates, settings and diagnostics.
- Updateable via BaseLinks
- Internal G-Force sensor*
- GNSS Triggers*
- Charger case compatible (+fits TR2 Cradle)

RaceLink Club

- GNSS (GPS) Position Tracking – 5 Hz
- Speed measurement
- Internal antennas or external RF & GNSS antennas
- Battery life up to 16h
- Bluetooth mode for wireless firmware updates, settings and diagnostics.
- Updateable via BaseLinks
- Internal G-Force sensor*
- GNSS Triggers*
- Built-in LED bar (add-on LED bar/ external display compatible)
- M8 Sensor 4P Connector for power & CAN
- CAN queue only – 4 messages / sec

RaceLink Pro

- GNSS (GPS) Position Tracking – 10hz
- Speed measurement
- External RF & GNSS antennas required
- Battery life up to 8h
- Bluetooth mode for wireless firmware updates, settings and diagnostics
- Updateable via BaseLinks
- Internal G-Force sensor*
- GNSS Triggers*
- Add-on LED bar / external display required for flagging
- Deutsch ASU003-05PN Connector for power & CAN
- CAN queue – 16 messages / sec
- CAN broadcast mode - 64 message / sec

* Requires Firmware Activation

X2 RACELINK – SPECIFICATIONS 1

Specifications	X2 RaceLink GPS	X2 RaceLink Club	X2 RaceLink Pro
MYLAPS item number(s)	12R150 (unit)	12R100 (unit) 12R101 (package with cables)	12R010 (package with cables)
GNSS tracking	5Hz	5Hz (10Hz future*)	10Hz
Speed measurement	✓	✓	✓
On-board LED marshalling	×	✓	✓ (with external display)
External LED bar option	×	✓	✓
Built-in LED bar	×	✓	×
LED bar auto brightness	×	✓	×
Internal antennas	✓	✓	×
External antennas (SMA) RF & GPS	×	✓	✓
Battery life	16h	16h	8h
Rechargeable use	✓	✓	✓
External power option	×	✓	✓
CAN bus configuration	×	×	✓
GNSS triggers	Future*	Future*	Future*
G-force sensor	Future*	Future*	Future*
Bluetooth	✓	✓	✓
Personal Charger	Future**	Future**	×
Charger Case compatibility	✓	✓	×
Connector	Charge pins	M8 sensor 4p	Deutsch ASU003-05PN
Weight	85g	120g / 0.26 lbs	85g
What's in the Box	X2 RaceLink GPS	12R100: X2 RaceLink Club (unit) 12R101: X2 RaceLink Club, GPS Antenna, RF Antenna, RF Antenna Adapter Cable, RF Antenna Extension Cable -1M, RF Antenna Connector, M8 Power Cable (DP use)	X2 RaceLink Pro, GPS Antenna, RF Antenna, RF Antenna Extension Cable - 1M, RF Antenna Connector

**Future firmware upgrade*

***Future accessory*

X2 RACELINK – SPECIFICATIONS 2

Technical specifications	X2 RaceLink GPS	X2 RaceLink Club	X2 RaceLink Pro
Dimensions	75x50x23 mm / 2.95 x 1.97 x 0.9 in	83 x 59.5 x 24 mm / 3.3 x 2.4 x 1 in	75x45x24mm / 3x1.8x1in
Weight	85g / 0.19lb	120 g / 0.26 lbs	85g / 0.19lb
Operating Voltage Range	Rechargeable only. Range: 5 - 12VDC	7 to 18VDC typical 12V	7 to 18VDC typical 12V
Power Consumption	-	1.3W, 110mA@12V	1.3W, 110mA@12V
(Back Up) Battery Lifetime	Up to 16 hours	Up to 16 hours	Up to 8 hours
(Back Up) Battery Charging	appr 1:4 ratio, 5 hours for full charge	1:4 ratio, 5 hours for full charge	1:2 ratio, 4 hours for full charge
Operating Temperature Range	-20 to 50 °C / -4 to 122F	0 to 50 °C / 32 to 122F	0 to 50 °C / 32 to 122F
Charging Temperature Range	0 to 40 °C / 32 to 104F		
Humidity Range	10% to 90% relative	10% to 90% relative	10% to 90% relative
IP Rating	IP67	IP62 without connectors connected / IP64 with connectors connected	IP62 without connectors connected / IP64 with connectors connected
Positioning	3 concurrent GNSS reception	3 concurrent GNSS reception	3 concurrent GNSS reception
Sensitivity	-167 dBm, 72 channels	-167 dBm, 72 channels	-167dBm, 72 channels
GNSS Antenna Connection	×	SMA(F), 3.0V active antenna	SMA(F), 3.0V active antenna
RF Antenna Connection	×	RP-SMA(F)	RP-SMA(F)
Maximum Throughput	Up to 128 messages/sec (GPS) (based on 64 active RaceLinks)	Up to 128 messages/sec (GPS/CAN) (based on 64 active RaceLinks)	Up to 128 messages/sec (GPS/CAN) (based on 64 active RaceLinks)
RF Output	+20 dBm @ 2.4 GHz ISM	+20 dBm @ 2.4 GHz ISM	+20 dBm @ 2.4 GHz ISM
Charging	300 mA @ 5VDC Bluetooth mode first 3 minutes	300 mA @ 5VDC Bluetooth mode first 3 minutes	250mA @ 5VDC Bluetooth mode first 3 minutes
Bluetooth mode	5VDC (first 3 minutes)	5VDC (first 3 minutes)	5VDC (first 3 minutes)
CAN broadcast	×	N/A	64 messages
CAN queue	×	4 messages	16 messages
Geo-triggers	max. 8	max. 8	max. 8

X2 RACELINK – SPECIFICATIONS 3

RAW BANDWITH

#RaceLinks	#Packets per second
64	128
128	64
256	32
512	16

TRANSMIT SCHEME (packets per second)

Packet type	64 RaceLinks	128 RaceLinks	256 RaceLinks	512 RaceLinks
GPS + Flag state	32	32	16	8
CAN Broadcast	64	16	8	4
CAN Queue	16	8	4	2