

## Specifications

### DRIVE CONTROLLER

<b>Enclosure</b>	IP65 Stainless Steel 600 x 600 x 300 mm, ( 24" x 24" 12")
<b>Switching Frequency</b>	2- 16 KHz
<b>Power Requirement</b>	0.8 KW, 110 VAC / 220 VAC (2 separate models) (1000 Watt Generator or Mains Power)
<b>Overload Capacity</b>	150% for 60 S
<b>Maximum Span</b>	Up to 400 metres typical. For longer spans, please contact our engineering department for technical advice
<b>Interlock</b>	Ultrasonic proximity set to 0.5m
<b>Inclinometer</b>	± 45° measurement for main cable sag correction

### ELECTRIC MOTOR

<b>Motor Body</b>	IP65, Geared Motor
<b>Speed</b>	Up to 1 m/s (3.2 ft/s)
<b>Distance Measurement</b>	0.01m/0.01ft resolution
<b>Output Torque</b>	32 Nm
<b>Safety Factor</b>	1.8
<b>Power Requirement</b>	0.75 KW 110 VAC / 220 VAC

### HOIST

<b>Lifting Capacity:</b>	45Kg/100 lbs Gauging Weights
<b>Minimum Power</b>	- 2 x 24 VDC Batteries, 20Ah - 2 x 50 Amp Fuses

<b>Requirement</b>	- 2 x Safety Cut off Switch
<b>Cable</b>	40m of 1/8" Amegraph Stainless Steel Cable
<b>Depth Measurement</b>	0.01m/0.01ft resolution, conforms to USGS Water Supply Paper 2175
<b>Inclinometer</b>	± 45° measurement, auto correction of depth
<b>Current Meter</b>	Built in signal processor (Homet Plus)

### REMOTE CONTROL (WIRELESS)

<b>Controls</b>	- Raise / Lower Control+ Battery Voltage monitoring Forward/Reverse + Speed control
<b>LCD</b>	16 char x 2 line with backlighting
<b>Radio Frequency</b>	- Frequencies available * USA 902.5-914.5 MHz * AUS 915.5-927.5 MHz (26 channels @ 1 MHz spacing) - Operating Range * 1 Km (0.62 miles)
<b>Indicators</b>	- LED for Comms and fault indication - LED for fan revolutions and ground feeler sensing
<b>Outputs</b>	Current Meter Output – OC Sounder for current meter pulses
<b>Power Source</b>	3xNiMh 2.5Ah AA batteries with built-in charger

### SAFETY FEATURES

<b>Proximity Sensor</b>	Fitted to inclinometer enclosure to prevent carriage from with motor drive controller
<b>Limit Switches</b>	Fitted inside hoist to prevent cable overrun and maintain cable tension at all times
<b>Electrical Fuses</b>	To protect hoist motor from overload

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## HORNET-SS

### CABLEWAY GAUGING SYSTEM

*Designed & Manufactured By  
Hydrological Services Pty Ltd*



- Fully Controlled System
- Portable 24 VDC powered Hoist can be used on multiple cableways
- No Maintenance Required
- Used with Suspended Sediment Samplers, Acoustic Doppler Current Profilers or Mechanical Current Meters
- Maximum Span 400 Metres Typical
- Radio Controlled Hoist, up to 1 Km (0.62 miles) range.
- Wireless Remote Control
- Easily retro-fitted to existing sites
- Ground feeler attachment is standard for Hornet SS

## Description

### WHAT IS THE HORNET SS?

The Hornet SS has been developed to perform river and stream sediment sampling and discharge measurements from fixed cableways using suspended sediment samplers, conventional Columbus Type Gauging Weights (45 KGs Maximum) and Mechanical Type Current Meters or Acoustic Doppler Current Profiler (ADCP). The Hornet SS is an ideal solution for retro fitting to an existing manned cableway system, thus minimising the personal injury risk associated with this type of gauging.

### HOW DOES THE HORNET SS OPERATES?

The Hornet SS is operated from the bank of the stream. Using a wireless remote control (see Figure 1), which incorporates the latest state of art electronics and Radio Controlled Systems, the operator can manoeuvre the sediment sampler by the push of a switch to traverse across the span to be measured. Once into position, the meter is lowered to commence measurement.

The Control System operates an electric motor fitted with incremental encoder to drive the carriage and hoist from the operating side to the far side of the river and back to the start point (see Figure 2-3). A special Sediment Sampling function has been built into the Remote Control that allows the operator to dial in the depth where the sample is to be taken, and set the vertical speed of the sampler. The operator then simply holds the "Lower" button and the sampler lowers to the preset depth, stops, reverses direction, rises back up and stops at the starting

position, indicating on the display that the Sample is complete (See Figure 2-3).

#### Prior to Sediment Sampling:

The Hornet SS takes a few minutes to set up and become operational.

The operator needs to do the following:

- Attach the Hoist to the Carriage
- Attach the Sediment Sampler
- Switch power on to operate the Hoist
- Connect to 1000Watt Generator or Mains to power Control System

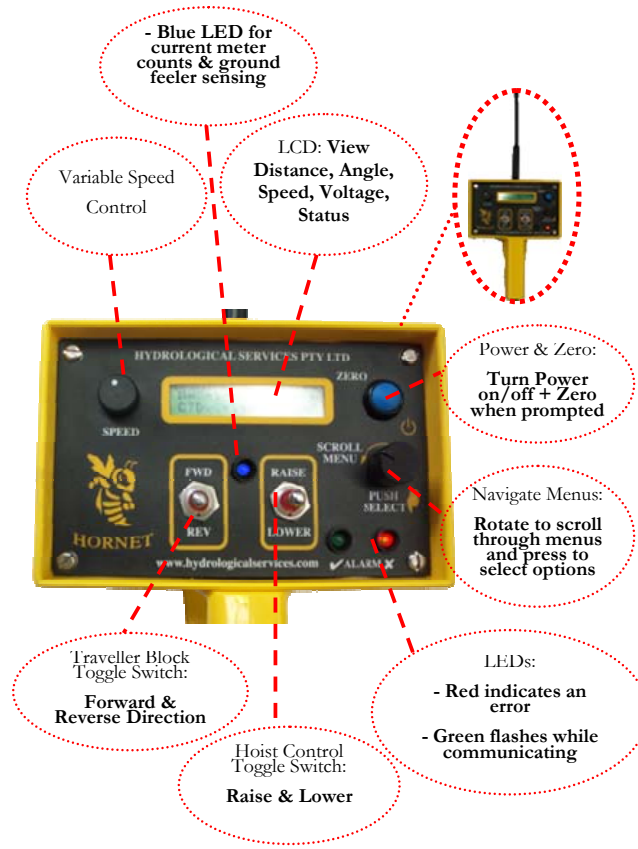


Figure 1: Wireless Remote Control

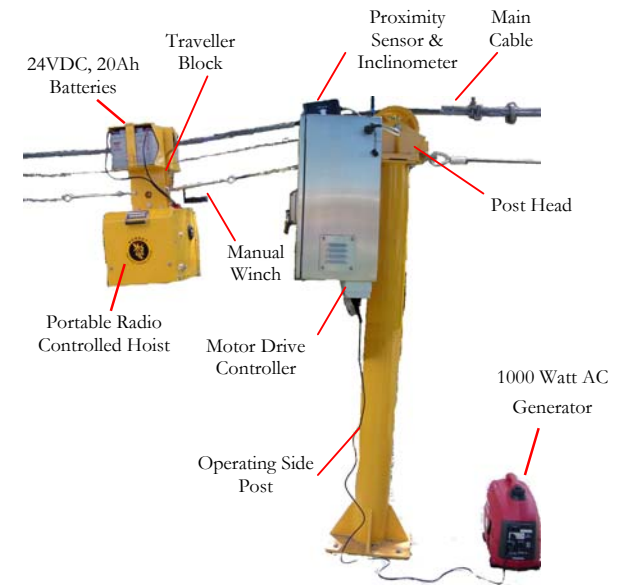


Figure 2: Operating Side

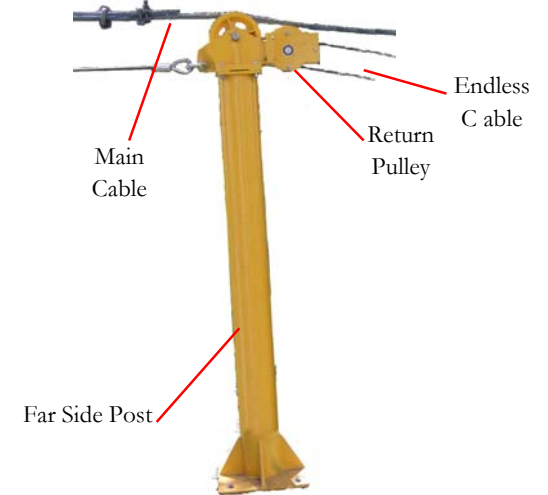


Figure 3: Far Side