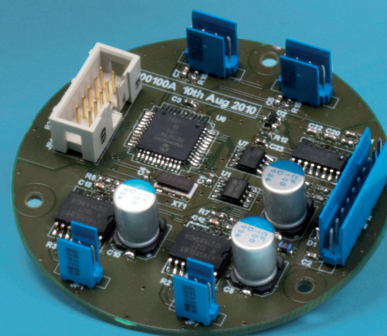
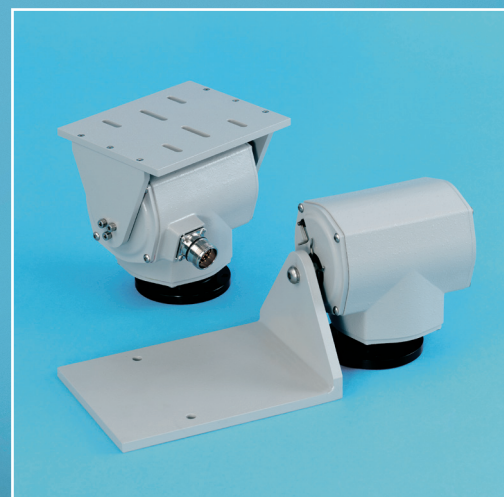


Bowler pan and tilts:
Original; Rugged; RX



RX intelligent interface card

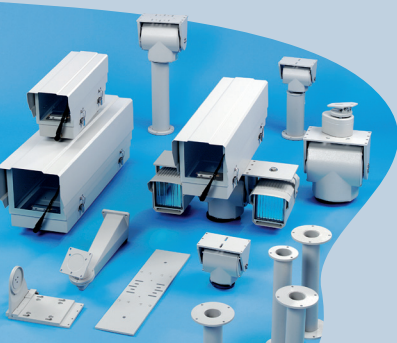
Wide range of models	Original, Rugged and RX with integral intelligent interface
Wide choice of options	Side mount, over the top and continuous rotation
Strong lightweight construction	Dual process heat treated gravity die cast aluminium casing
Highly reliable with minimal backlash	Precision turned and milled internal components with ball races on major axes
Built to last	Stainless steel fastenings
Weatherproof	'O' rings and lip seals. IP rating 68 (assuming the supplied mating connector is used and fitted to the manufacturers specification)
Long operational life	Maintenance free, two year warranty
Mounting plate	Suitable for all small housings
Corrosion resistant finish	Colour options available





Bowler pan and tilts:
Original; Rugged; RX

The Bowler range of miniature pan and tilt heads comprises Original, Rugged and RX (integral intelligent interface) models which are available in both over the top and side mount configurations. Extremely compact, the units are aesthetically designed to IP 68 and provide a weatherproof, stable platform for CCTV installations where a smaller size is required. Larger bearings with a broader spread allow a much higher load capacity on side arm configurations. The gearbox is designed to provide higher gear ratios for lower speeds without costly modifications.



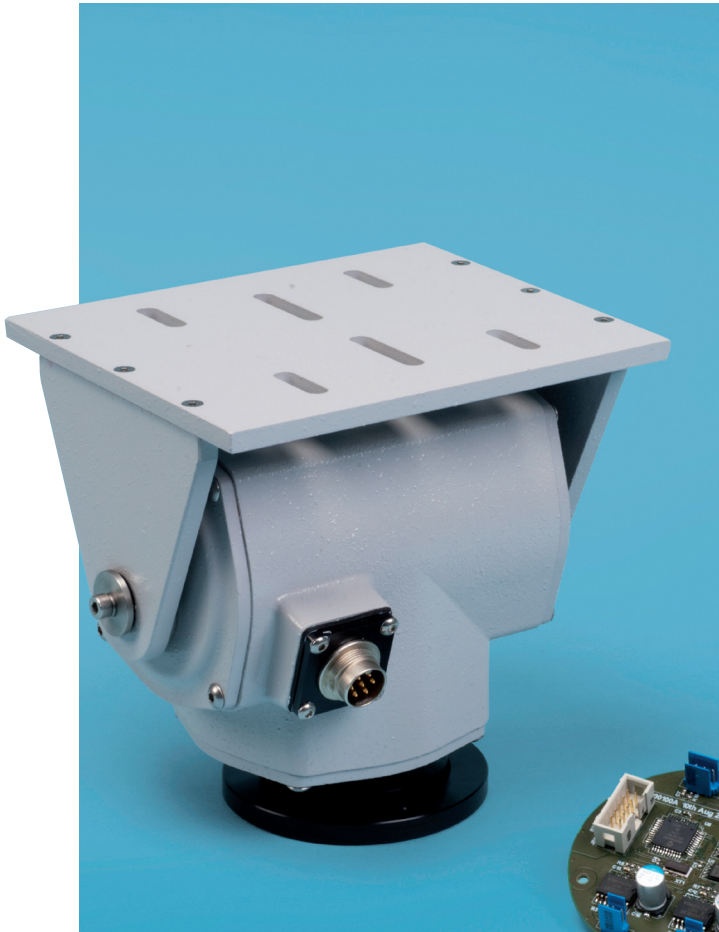
Bowler Original

The Bowler Original is ideal for most applications which call for a weatherproof, maintenance free, quality compact pan and tilt. Easy to install, it features simple external limit switch adjustment to 350° travel and has regenerative braking for speedy deceleration.

Common specification	Side mount	Over the top
Dimensions (<i>mm nominal</i>)		
Height	133	146
Width to platform face	145	145
Width to platform outer edge	307	N/A
Weight (<i>kg</i>)	< 2.3	< 2.3
Fixing centres (<i>mm</i>)		
Base	3 holes tapped M5 on 70 PCD	3 holes tapped M5 on 70 PCD
Platform	2 holes 6.35Ø, 106.6mm apart	6 slots (<i>see diagram</i>)
Voltages		
Original/Rugged	24VDC or 12VDC	
RX/RX Rugged	12VDC	
Speeds (<i>°/sec</i>)		
Original/Rugged	Pan 30,10/ Tilt 10	Pan 30,10/ Tilt 10
RX/RX Rugged	Pan 30 / Tilt 10	Pan 30 / Tilt 10
Capacity (<i>kg @ 30/10 °/sec</i>)	10	6
(maximum load can only be achieved by using a balance load)		
Operational angles (<i>°</i>)		
Pan	350	350
Tilt	±180	-90 to +25
Backlash	Less than 0.15°	
Control cable	Mating connectors supplied	
House colour	Goose Grey, Textured, Semi Gloss (BS4800 00 A05)	
Maintenance	None required	
Temperature range (<i>°C</i>)	-20 to +50	

Bowler RX

In addition to the benefits of the Original, the Bowler RX is fitted with an integral controller card which does away with the need for a potentially vulnerable external receiver. Available in 12VDC only, the RX has electronic limit stops and electronic braking to aid rapid deceleration. Additional features include:
RS232 (PC GUI interface supplied)
RS485 using Pelco-D & Pelco-P protocol
Can be set to 256 addresses
Preset & tour facility
Electronic limit stops
Auxiliary relay outputs for wash, wipe & lights
Power & data output for ‘block style’ camera



Bowler Rugged and Bowler RX Rugged

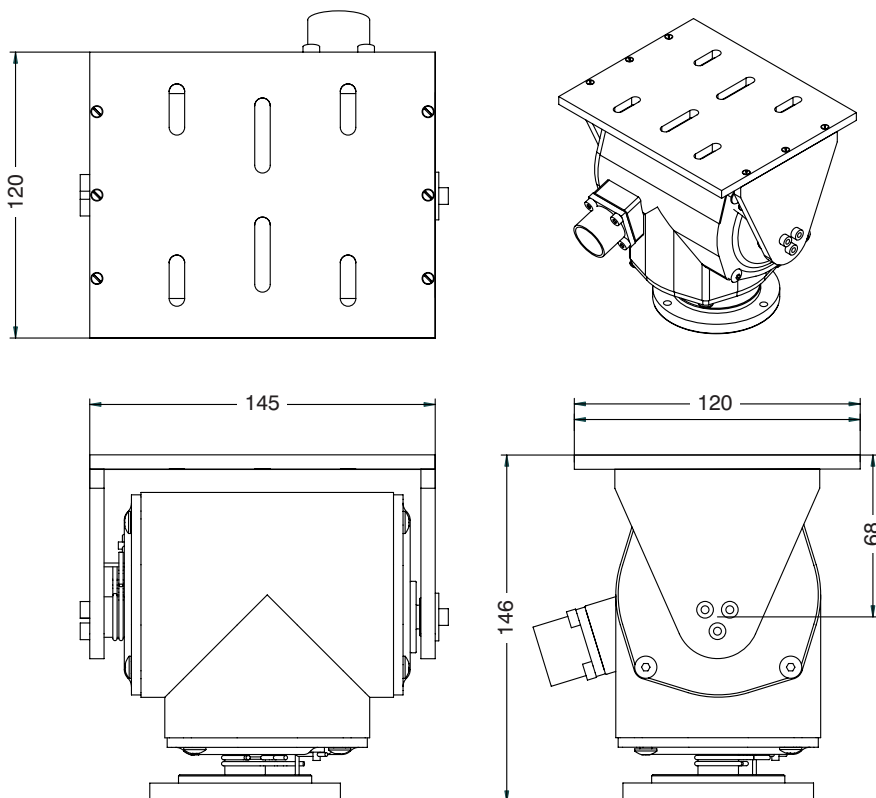
Designed to cope with the added forces generated when mounted and operated on vehicles in motion, the ruggedised variant of the Bowler is in the order of six times stronger than the Original and RX models. The unit has been independently tested with a top load of 3.5kg to EN 60068-2-64:2008, Spectrum A.3 Equipment in wheeled vehicles, Category 2 (the specification for chassis mounted equipment). The table below shows the strength of the new Bowler Rugged in comparison to the Bowler Original.

Original	Rugged	Advantage	Strength increase
Shaft diameter			
Ø17mm	Ø30mm	Contact area of shaft to base increased x 3, minimizes any transverse movement	Reduces screw wear, increases screw loosening resistance
Base plate and side arm design			
Flat	1mm recess	Stops transverse movement of shaft in relation to plate or side arm	
Screw size and quantity			
M4 X 3 Ø12mm PCD	M5 X 4 Ø22mm PCD	Increase overall cross section of screws	x 2.3 (increases screw loosening resistance)
Screw PCD			
Ø12mm	Ø22mm	Screws exert more leverage	x 1.7
Screw material			
A2 stainless steel	12.9 high tensile steel	Higher tensile strength of material	x 1.74
Total increase in tensile strength can be calculated as: 2.3 X 1.7 X 1.74 = 6.80			Total strength increase = 6.80

IMPORTANT: It is the responsibility of the user or integrator to test this product to determine its suitability for use in specific applications.

Dimensions

Bowler pan and tilt (mm)



Bowler continuous rotation pan and tilt



All Bowler models are available as continuous rotation units with either standard or shortened column (see separate data sheet).

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MAD pursues a policy of continuous development. Specifications may therefore be changed without notice.

