QUALITY CCTV HARDWARE

THE BEST OF BRITISH

Contents

MAD is almost certainly unique in the CCTV hardware industry with design, manufacture and assembly all under one roof.

Take a good look at our product range, and the benefits are immediatey obvious. Superlative build quality, unrivalled specification and innovative design promise many years of maintenance free operation. However, where we really score is in our flexibility. Because of our set up, customers' specific needs can be addressed faster and more effectively than ever.

An example of this approach is one which enables a site engineer to install with complete confidence...

MAD PRE-BUILD SERVICE

Agree a specification for an installation, 'free-issue' us the components (e.g. camera, lens, receiver, cable etc.) and we'll assemble and test the system for you. If neccessary, we"ll provide test sheets and equipment logs and even hold a 'Factory Acceptance Test' with customer and clients present. If you need additional Control Equipment or CCTV accessories, just ask. It's that simple!

Welcome to the MAD house where quality, reliability and service come together.

bsia
british security industry association
ASSOCIATE MEMBER

BECAUSE TWO HEADS ARE BETTER THAN ONE

|	
Strong lightweight construction	Machined from billet aluminium
Flexible configuration	1 optical/1 thermal, 2optical etc.
Weatherproof	IP68 environmental protection
Fast and accurate	Stepper motor technology
Long operational life	Three year warranty
Easy to install	Built in receiver, RS485, Pelco-D protocol
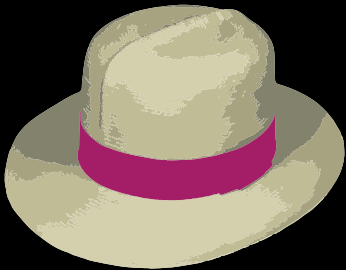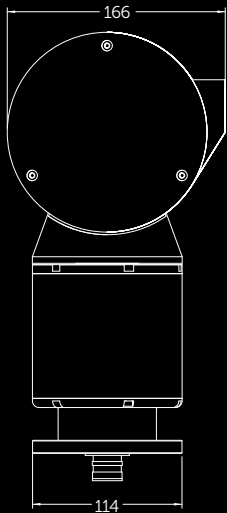
OPTIMO
INTEGRATED DUAL DOME

Say hello to Optimo, the latest addition to the MAD family of quality CCTV hardware. Designed, engineered and assembled in the UK to our usual high standards, the machined aluminium IP68 rated Optimo is a robust and versatile platform conceived to meet the constantly evolving challenges faced by today's CCTV community.

A fully integrated plug-and-play system, the unit's twin heads are capable of housing a variety of camera and lens combinations - optical/thermal or optical only.

Incorporating stepper motor technology, the Optimo has a wide speed range up to 200°/sec with excellent low speed control and high preset accuracy.

Dimensions (mm nom)	H 321 x W 289 x D 152mm
Interface	RS485, Pelco-D
Voltage	24VDC
Option	Wiper
Protection	IP68

166

114

289

152

321
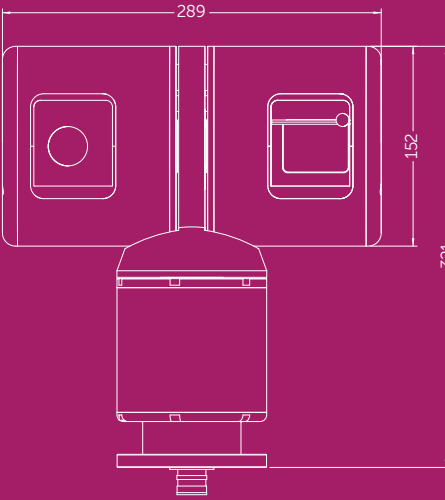
THE DOME THAT DELIVERS TRUE OPTICAL QUALITY

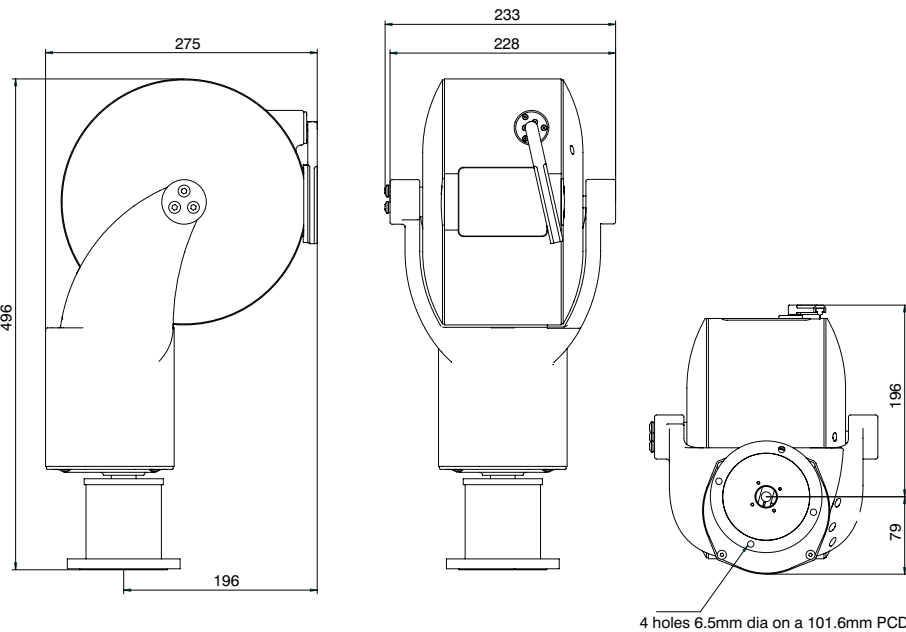|	
Strong lightweight construction	Gravity die cast aluminium casings with 4mm toughened glass
Highly reliable with minimal backlash	Precision turned internal components with ball races on major axes
Built to last	Stainless steel fastenings
Weatherproof	'O' rings and lip seals. IP rating 68
Accurate	Resolver technology on pre-sets
Long operational life	Maintenance free, two year warranty
Easy to install	Everything internal prewired (external power supply in weatherproof box)
Continuous rotation	On pan axis

PANAMA
INTEGRATED PAN & TILT

Designed and built to the same uncompromising standards as our conventional units, the Panama is an industry first: an integrated pan and tilt with the technology to deliver true optical quality.

The camera: a Panasonic CLR934, is an advanced high resolution, day/night multi-function colour CCTV camera which boasts a ½" Super LoLux type CCD.

The lens: a Pentax C60726WX 7.5 to 120mm, F1.6 to 1000 with 16x optical zoom.

The pan & tilt dome: incorporating all electromechanical and electronic components, the aesthetically pleasing, ruggedised die cast aluminium IP68 enclosure affords full environmental protection. An internal cooling fan and wiper are fitted as standard.

Configuration and contol, including alarms and privacy zones are fully menu driven irrespective of protocol.

PAN & TILT

Dimensions (mm nominal) Height Width Depth	496 233 275
Weight (kg)	12
Fixing centres (mm)	4 holes 6.5mm dia on 101.6 (4") PCD
Supply Voltage	24VAC ±10%
PSU (external)	230VAC ±10% Transformer to 24VAC
Power consumption	Peak: 50VA Idle: 17VA
Temp. range (°C) Internal/External	0 to +50 (permanent internal fan)/-20 to +50 (thermostatically controlled anti-misting heater)
Connector (15 way bayonet)	Base mounted (power, comms, aux, video, tamper, wash)
Video	50 dB
Communications Standard Protocol	RS422, RS485 Meyertech ZoneVu®, Pelco D and P, Forward Vision, Vicon (also includes camera comms for RS422 & 485) Full menu driven configuration on all protocols PC configuration backup (ZoneVu® only) Flash upgradeable (ZoneVu® only) Absolute positioning
Speeds (°/sec) 32 speeds of Pan, Tilt, Zoom & Focus	Pan: 48 maximum, 1.8 minimum Tilt: 30 maximum, 1.4 minimum
Operational angles (°)	Pan: 360 (continuous) Tilt: 140 (from vertically down)
Presets	100 + Home
Patrols	16
Mimics	4 x 1 minute
Privacy zones (dynamic)	50
Dynamic captions	64 (including sector text)
Alarms	Video loss, tamper (external), motion detection Local alarm response Remote alarm reporting
OSD	Caption, menu, command, 2D zones, 35 characters x 16 lines
Address	1 to 4096 and global (ZoneVu®) Max. supported on Pelco D and P
Wiper	Self parking
House colour	Goose Grey, Textured, Semi Gloss (BS4800 00 A05)
Maintenance	None required
Sunshield	Fitted as standard for upright applications (not used inverted)

233
228
275
496
196
79
196

4 holes 6.5mm dia on a 101.6mm PCD

PENTAX LENS: C60726WX-H16ZME-5

Format	½"
Mount	C
Focal length	7.5 to 120mm
Iris Range	F1.6 to 1000
Iris Type	VS
Max. iris aperture	F1.6
Iris control	Auto-Iris
Focus control	Motorized, Type 5, 12VDC, max. 30mA
Focus speed	5.5 sec
Zoom control	Motorized, Type 5, 12V DC, max. 45mA
Zoom speed	2.5 sec
Horizontal angle of view	45.78° to 3.09°
Minimum object distance	1.5m

PANASONIC CAMERA: CLR934

Signal system	PAL
Image device	½" interline transfer CCD
Pixels	768(H) x 494(V) 752(H) x 582(V)
Sync system	Internal, Line Lock, Genlock
Scanning freq.	15.625 kHz(H), 50.00 Hz(V)
Horiz. res.	540 lines color high, 480 lines color normal, 570 lines B/W
Video output	Composite video
Video S/N ratio	50 dB (AGC Off, Weight On)
Min. required illumination	Color (30 IRE): 0.09lux (sens up: off) 0.003lux (sens up: 32x) at F1.4 B/W (10 IRE): 0.008lux (sens up: off) 0.0003lux (SENS UP: 32x) at F1.4

ALL-IN-ONE ALTERNATIVE...

Samsung SCZ-2370 ¼" high resolution 37x optical zoom camera

VANDAL RESISTANT WALL MOUNT DOME WITH HIGH RESOLUTION CAMERA

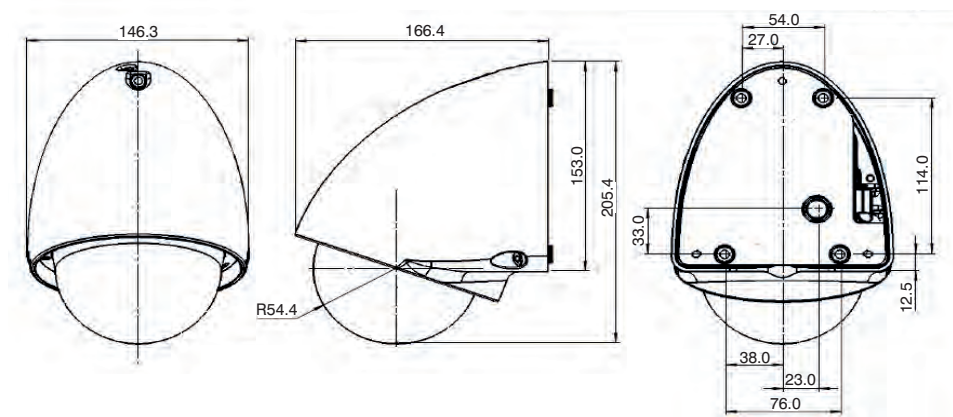|	
Sony colour camera	True day/night, high resolution 530 TVL with 10x auto focus zoom
High performance ultra quiet pan and tilt	Direct drive brushless motors
Vandal resistant	3mm die cast aluminium housing, 2mm polycarbonate dome
Weatherproof	IP67 rating
Versatile	Analogue or IP connectivity, RS485 and UTC control
Highly configurable	0.01 to 360°/sec pan, 32 presets, 16 tours, 24 privacy zones, 2 alarm inputs, 1 alarm output
Easy to install	Housing secured to wall plate with 3 tamper resistant screws

TRILBY
INTEGRATED DOME

The Trilby dome is a unique design suited to mounting directly to a wall, either indoors or outdoors.

Its rugged 3mm die cast aluminium housing and 2mm thick poly-carbonate lower dome, which is tilted to enable the camera to view above the horizon, make it ideal for installation in public areas where vandalism may be a problem.

Powered by innovative brushless direct drive motors, the Trilby has startling performance with virtually silent operation and extremely accurate preset positioning.

Installation is simple thanks to the removable wall plate which features a safety crank to support the housing whilst connectors are fitted and operation is verified. Three tamper resistant screws secure the housing to the wall plate to complete installation and maintain environmental integrity to IP67.

Optics and display	
Image sensor	1/3-type Sony Super HAD CCD II
Signal system	PAL
Number of total pixels	Approx. 440,000 pixels
Lens	10x optical zoom, f=5.1mm (wide) to 51.0mm (tele), F1.8 to F2.1
Angle of view	(H) 50.0° wide to 5.4° tele
Digital zoom	12x (120x with optical zoom)
Horizontal resolution	530 TV lines
Minimum illumination	1/50 s mode: 0.25lx (typical)(F1.8 50IRE) 1/3 s mode: 0.015 lx (typical) (F1.8, 50 IRE) 1/3 s mode & ICR on: 0.0004 lx (typical) (F1.8, 50 IRE)
S/N ratio more than	50 dB
Electronic shutter	Auto, Manual - 1/1 to 1/10,000s
White balance	Auto, ATW, Indoor, Outdoor, Manual
Gain	Auto , Manual
AE control	Auto, Manual
Focusing system	Auto, Manual
Back-light compensation	On / Off
Privacy zone masking	On / Off, 24 positions 8 positions per screen
On screen display	Max. 11 lines (20 characters per line)
Displayed language	English. French, German Italian, Spanish
Time and date display	Yes
Alarm in	2 events, 8 actions, alarm scheduler with holiday feature
Relay out	1 x NO/NC
Pan and tilt	
Pan and tilt mechanism	Direct drive brushless motors
Preset positions	32
Tours	16
Control protocol (RS485)	Pelco D/P, BBV, Dennard, Sensormatic, Samsung, Vicon
Control protocol (UTC)	Pelco Coaxitron, BBV
Pan rotation	180°
Tilt rotation	100°
Pan speed	0.01° to 90°/second - manual, 360°/second - preset
Tilt speed	0.01° to 90°/second - manual, 180°/second - preset
Option	
Sunshield	
Environmental	
Power consumption	12W without heater
Storage temperature	-20°C to 60°C
Operating temperature	-10° C to 50°C
Environmental protection	IP67
Weight	2.2kg (shipping weight 2.65kg)
Dimensions (mm)	See diagram
Shipping dimensions	W 26.5 x D 21.5 x H 32.5cms

TOP QUALITY TRADITIONAL IP68 PAN & TILT HEADS

Uncompromising construction	Dual process heat treated die cast aluminium or 316 stainless steel casing
Wide choice of options	Side mount, over the top and continuous rotation models
Highly reliable with minimal backlash	Precision turned internal components with ball races on major axes
Built to last	Stainless steel fastenings
Weatherproof	IP rating 68 (supplied mating connector must be used and fitted as specified)
Long operational life	Maintenance free, two year warranty
Easy to install	Simple external limit switch adjustment
Universal mounting plate	Suitable for all appropriately sized housings
Corrosion resistant finish	Colour options available
Regenerative braking	Aids rapid deceleration

On a prison wall looking in, or a power station looking out; on highways, at ports; in town and city centres; on police mobile surveillance units and for ANPR. In fact for any application that calls for uncompromising quality, performance and maintenance free reliability, chances are you'll spot the unmistakeable profile of a MAD pan & tilt.

Available in three different sizes, with environmental housings to match (see page 12), all units can be configured for over the top or side mount operation. Bowler and Topper heads are also available with continuous rotation.

In addition to Original versions, on all models, we now offer RX variants with internal controller cards which do away with the need for an external receivers and add electronic braking and limit stops.

To our small Bowler, range we've added a Heavy Duty unit, upgraded to handle the wear and tear of being mounted and operated on vehicles in motion.

For use in corrosive or clean environments, the medium sized Topper is available with a 316 stainless steel casing.
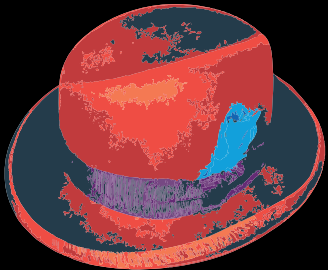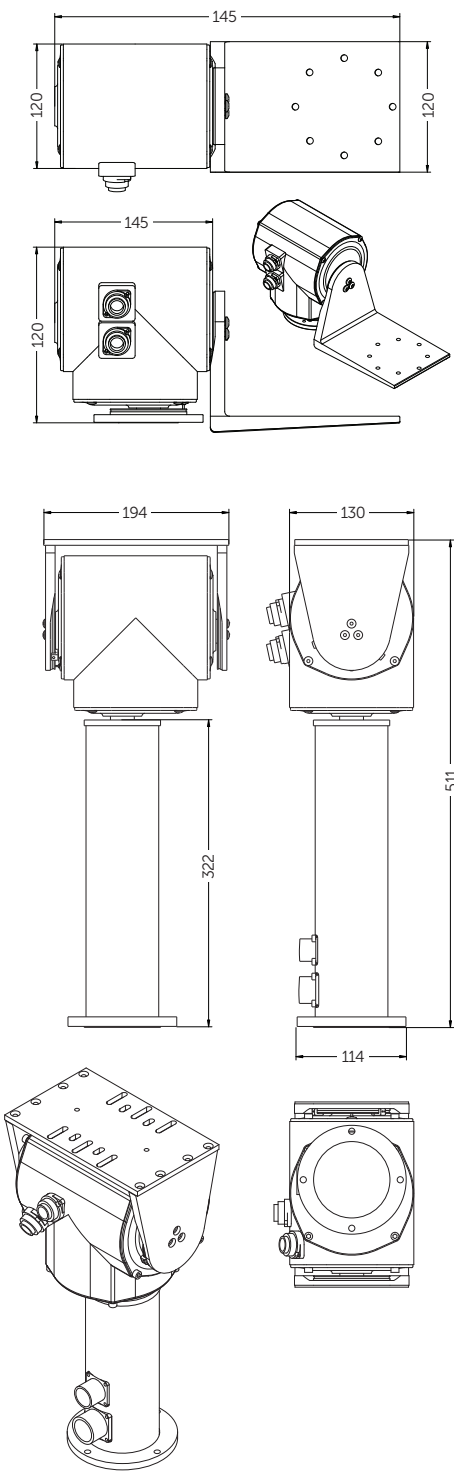
If your application calls for the ultimate in maintenance free all-weather performance look no further...
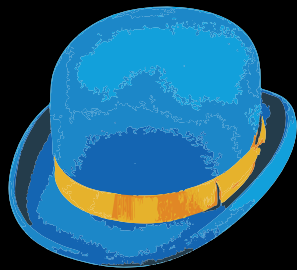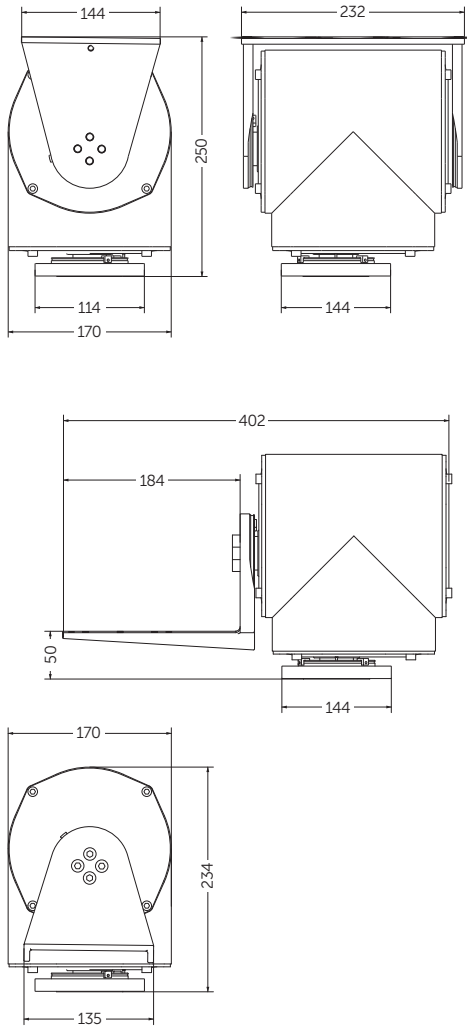
BOWLER
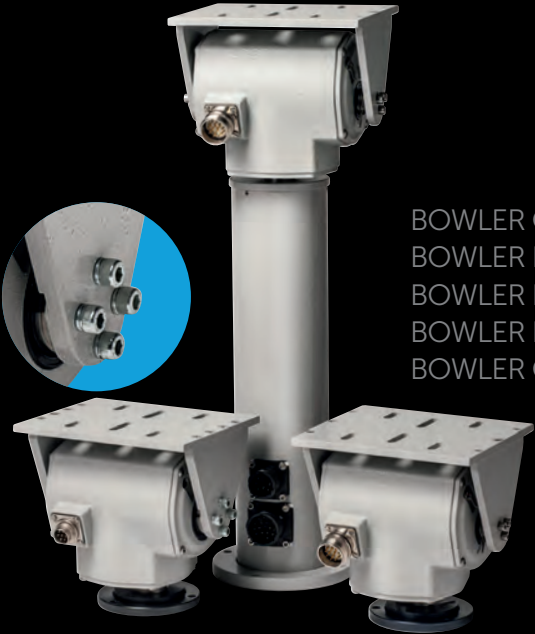### LIGHT DUTY PAN & TILT
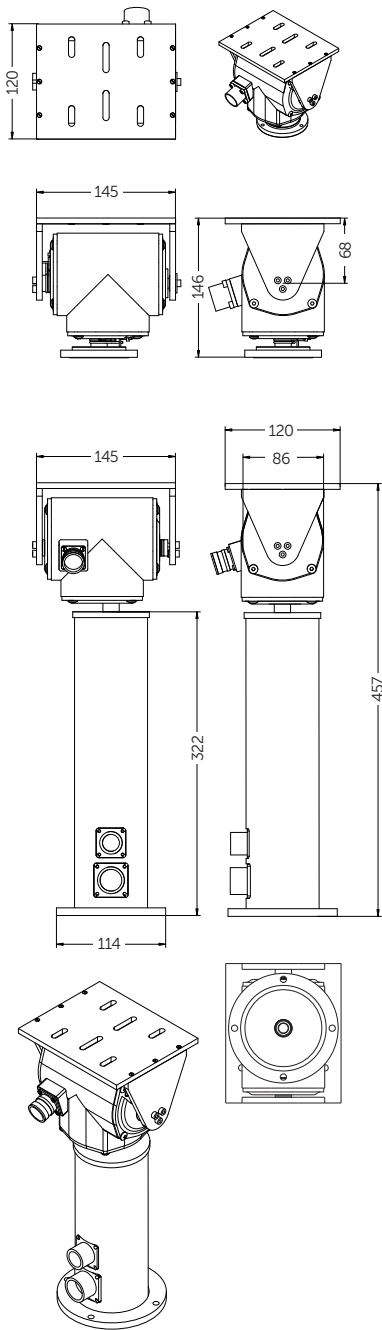
TOPPER
MEDIUM DUTY PAN & TILT

HOMBURG
HEAVY DUTY PAN & TILT

BOWLER ORIGINAL
BOWLER RX
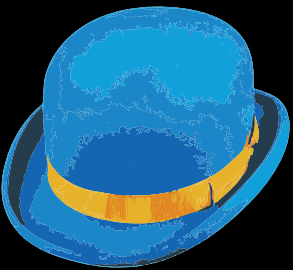BOWLER HEAVY DUTY
BOWLER HEAVY DUTY RX
BOWLER CR

TOPPER ORIGINAL
TOPPER RX
TOPPER 316 STAINLESS
TOPPER CR

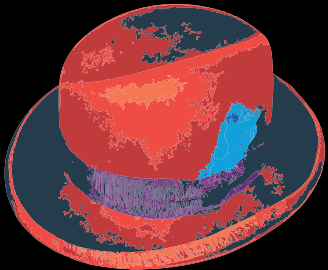HOMBURG ORIGINAL
HOMBURG RX

PAN & TILT HEADS
SPECIFICATION

	BOWLER — LIGHT DUTY PAN & TILT		TOPPER — MEDIUM DUTY PAN & TILT		HOMBURG — HEAVY DUTY PAN & TILT	
Common specification	Side mount	Over the top	Side mount	Over the top	Side mount	Over the top
Dimensions (mm nominal)						
Height (Standard)	133	146	184	201	234	250
Height (Continuous Rotation)	441	457	493	511	N/A	N/A
Width to platform face	145	145	190	183	402	N/A
Width to platform outer edge	307	N/A	366	N/A	170	170
Depth (without plugs)	-	-	130	130		
Slip ring (Continuous Rotation only)	24 way with 4 contacts per ring. (240v AC 2Amps)		24 way with 4 contacts per ring. (240v AC 2Amps)		N/A	N/A
Weight (kg)						
Die cast aluminium (Standard)	< 2.3	< 2.3	<6	<6	<12	<12
Die cast aluminium (Continuous Rotation)	<4.3	<4.3	<8	<8	N/A	N/A
316 stainless steel	N/A	N/A	11.7	11.7	N/A	N/A
Fixing centres (mm)						
Base (Standard)	3 holes tapped M6 on 70 PCD		4 holes tapped M6 on 4"(101.6) PCD plus 4 holes 6.35 Dia on 4"(101.6) PCD		4 holes tapped M6 on 4"(101.6) PCD plus 4 holes 6.35 Dia on 4"(101.6) PCD	
Base (Continuous Rotation)	4 holes 6.35 dia on 4" (101.6) PCD		4 holes 6.35 Dia on 4"(101.6) PCD		N/A	
Platform	2 holes 6.35Ø, 106.6Ø apart	6 slots (see diagram)	4 holes 6.5mm dia. on 101.6mm (4") PCD/square 4 holes 6.35mm dia. on 101.6mm (4") PCD/diamond 4 slots, 6.35mm wide x 30mm long in pairs in line with camera axis		Key hole slots on 4" PCD	
Voltages						
	12VDC, 24VDC		12VDC, 24VDC nominal, 24VAC, 110VAC, 240VAC		12VDC, 24VDC, 24VAC, 240VAC	
Speeds (°/sec)						
	Pan 30,10 Tilt 10		AC: Pan 3, 6, 12 / Tilt 3, 6 DC: Pan 12, 18, 24, 32, 48 / Tilt 12, 18		Pan 30, 10 / Tilt 10 Slowspeed Pan/Tilt: <0.1°/sec min. to 10°/sec max.	
Capacity (kg)						
Important: maximum load can only be achieved by using a slow speed gearbox at certain speeds and a balanced load. **Contact MAD for details**	10 (@ 30/10°/sec)	6 (@ 30/10°/sec)	25	16	50	20 (30 or 25 with 1 or 2 load compensators)
Operational angles (°)						
Pan	350	350	350	350	350	350
Tilt	±180	-90 to +25	±180	-90 to +25	±180	-90 to +25
Backlash	Less than 0.15°		Less than 0.15°		Less than 0.15°	
Long life potentiometers	-		Fitted as standard		Fitted as standard	
Control cable	Mating connectors supplied		Mating connectors supplied		Mating connectors supplied	
House colour	Goose Grey, Textured, (BS4800 00 A05)		Goose Grey, Textured, (BS4800 00 A05)		Goose Grey, Textured, (BS4800 00 A05)	
Maintenance	None required		None required		None required	
Temperature range (°C)	-20 to +50		-20 to +50 (heater available)		-20 to +50 (heater available)	
Environmental housing compatibility						
RX Integral Controller Card option	Bowler RX / Bowler Heavy Duty RX		Topper RX		Homburg RX	
Voltages	12VDC, 24VDC		12VDC, 24VDC		12VDC, 24VDC	
Interface / Protocol	RS232 or RS485 / Pelco-D & Pelco-P or ASCII		RS232 or RS485 / Pelco-D & Pelco-P or ASCII		RS232 or RS485 / Pelco-D & Pelco-P or ASCII	
Addresses	Up to 256		Up to 256		Up to 256	
Preset and tour	Dependent on controller		Dependent on controller		Dependent on controller	
Limit stops and braking	Electronic		Electronic		Electronic	
Auxiliary relay outputs	Wash, Wipe, Lights		Wash, Wipe, Lights		Wash, Wipe, Lights	
Power and data pass-through	for 'block style' camera		for 'block style' camera		for 'block style' camera	

MAINTENANCE FREE ALL-WEATHER CAMERA HOUSINGS

Uncompromisng construction	Lightweight sheet aluminium or 316 stainless steel casing and tray
New 903 series	Extra height and width as standard plus short and integral cooling fan versions
Deep bottom tray	Suitable for housing integral wiper or accessories such as receivers or RF TX's & Rx's
Built to last	Stainless steel fastenings
Weatherproof	Sealed to IP rating 66
Accessories	Extended paxolin camera plate and stainless steel safety strap
PTC Resistor heater	Progressive performance without the need of a thermostat (available on request)
Cable management	Two entry glands at 20mm and one hole at 25mm for Kopex or Adaptaflex
Integral wiper option	Micro switch self parking wiper with blade toggle action
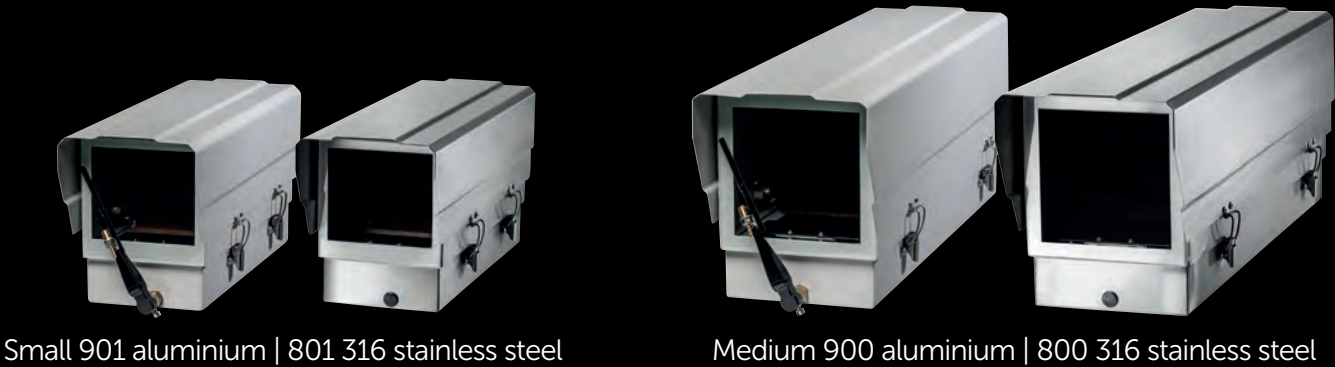
Small 901 aluminium | 801 316 stainless steel

Medium 900 aluminium | 800 316 stainless steel

Wide 903 Standard

Wide 903 Short

The 903 housing shown here is fitted with an optional double skinned sunshield which is available for all models

Wide 903 with fan cooled sunshield

Available exclusively for the Standard sized 903, the sunshield uses an electric fan to remove built up hot air from within the unit.

Large 902

MITRE
CAMERA HOUSINGS

Made to a proven, traditional design, the Mitre range of environmental camera housings are extremely compact yet spacious enough (particularly the new 903) to accommodate larger camera/lens combinations.
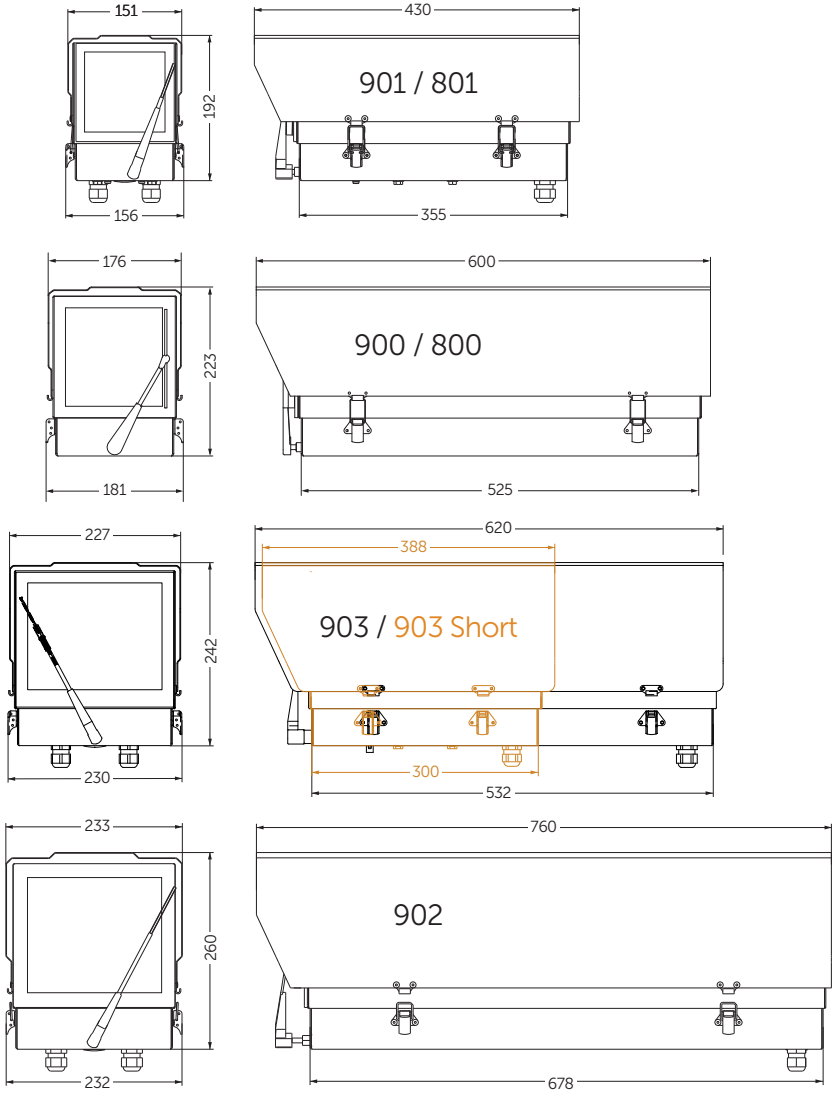
Broadening the range of applications to include corrosive and clean environments, Small (901) and Medium (900) aluminium cased housings cases are now available in 316 stainless steel (801 and 800).

Toughened glass and stainless steel fittings/fastenings ensure long operational life and two entry glands and a grommetted hole are provided for efficient cable management to secure the units' IP66 integrity.

A deep base allows the fitting of an optional integral wiper which incorporates a micro switch for self-parking.

Standard accessories include an extended camera plate, steel safety strap and wiring distribution block.

A PTC resistor heater with progressive performance is also provided which eliminates the need for a thermostat and when the heat's on, optional double skinned sunshields are available for all models. The roomy new 903 (standard length) can even be supplied with a fan cooled sunshield which draws air through the housing to prevent overheating in extreme conditions.

Dimensions (mm nominal)	901/801	900/800	903	902
Height	192	230	242 / 242	259
Width over clips	156	180	230 / 230	232
Width over sunshield	151	174	227 / 227	233
Length over sunshield	430	600	620 / 388	760
Depth inside base	55	55	57 / 57	55
Weight (Kg)				
Aluminium without wiper	<2.5	<3.5	7 / 4	<6.0
Aluminium with wiper	<3.0	<4.0	7.5 / 4.5	<6.5
316 stainless without wiper	4.7	8.2	N/A	N/A
316 stainless with wiper	TBA	TBA	N/A	N/A
Fixing centres				
Base	4 holes tapped M6 on 101.6 PCD (4") square to base			
Platform	4 slots 7.0 wide x 25 long in 225 long Paxolin or aluminium (903 units) plate (1 x ¼" UNC hex screw supplied)			
Voltages	240VAC, 24VAC, 12VDC, 24VDC nominal			
Capacity (l x w x h mm)	330 x 114 x 110	510 x 140 x 145	505 x 178 x 167 / 273 x 178 x 167	650 x 180 x 170
Options (all models) see price list	Integral self parking wiper, internal fan, washer, thermostat, double skinned sunshield			
Options (903 only)	Fan cooled sunshield housing (12VDC, 540mA running current draw) with replaceable filter			
Heater	Progressive up to 32W			
Wiring and connections	Single row (double row with fan option), 12 way terminal block(s), 2 x 20 mm cable glands plus blanked, 25 mm hole for Kopex or Adaptaflex			
Recommended cable	16/0.2 (rated at 230V for mains versions)			
House colour (900 series)	Goose Grey, textured, semi gloss (BS4800 00A 05)			
Maintenance	None required			
Temperature Range (°C)	-20 to +50			

A LONG DISTANCE STUNNER FOR SENSITIVE AREA SURVEILLANCE

HOMBURG
SLOWSPEED SYSTEM

Long range surveillance	with 55-60x lenses
Ultra slow speed operation	Pan and tilt speeds <0.1°/sec minimum to 10°/sec maximum
Choice of supply voltage	Supply voltage either 110V ac or 230V ac
Choice of auxiliary output voltage	Output voltage either supply voltage or 24V ac
Easy to install	9 wire connections between receiver and housing
Exceptional accuracy	Revolutionary preset technology with 12 bit resolution
Easy to set up	Receiver mountable at base of pole
Wide choice of lenses	Compatible with lenses with iris override and x2 converters up to 60x
Flexible	Supports 14 different protocols
Active motor drive system	Ensures head stays on preset positions
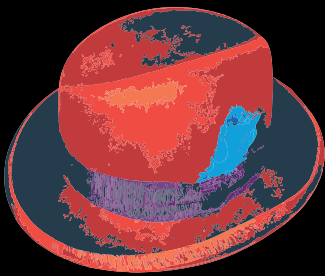
The Homburg Slowspeed system is a complete high resolution solution for users requiring a far higher degree of accuracy than is possible with a normal pan & tilt head and receiver. Delivering the capability of video tracking over long distances (dependent on lens), applications for the Slowspeed include airports and border control, harbours, vehicle embedded systems and other sensitive area surveillance.

Quick and easy to install, the receiver and housing are connected together by just nine connections (five power, two data and two video cables) and the receiver can be controlled over a daisy chained or star wired RS422/485 network. System commissioning and diagnostics are performed via a local or remotely located display.

RECEIVER

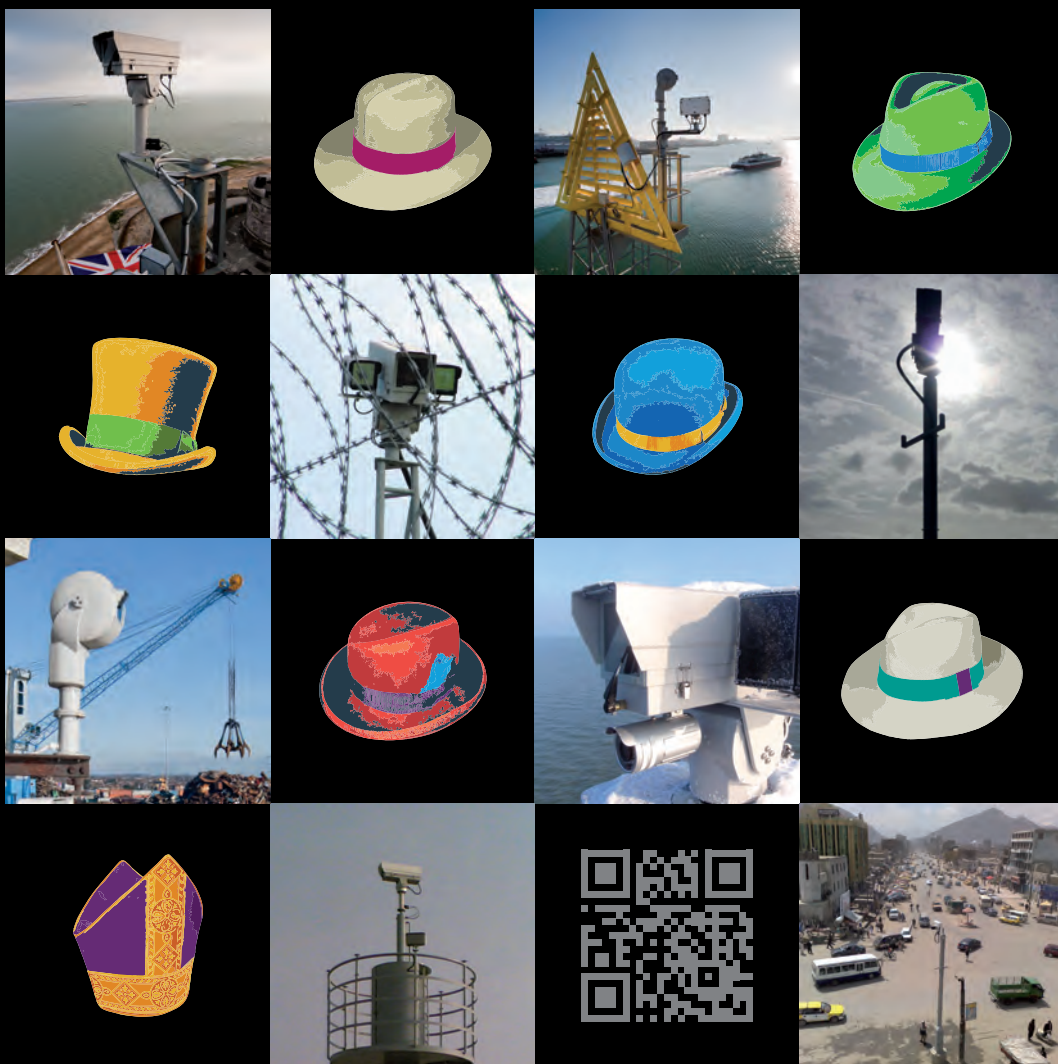|	
Power supply	230Vac or 110Vac
Max load	5A @ 230V (1150W)
Receiver current draw	Maximum of 100VA max
Fuses	Auxiliary fuse F2 5A T (20mm ceramic cartridge) Total max. pan/tilt/lens/24Vac auxiliary 100VA
Outputs	Auxiliary outputs for wash/wipe/lights (1000W max) Driven at supply voltage or 24V ac selectable by SW2
Video input	1V p-p 75Ω terminated input via BNC socket
Video output	1V to 4V p-p 75Ω impedance via BNC socket Video launch amplifier gain locally and remotely adjustable Zoom and focus: adjustable between 6 - 12Vdc Inching speed: adjustable between 0-12Vdc 1 second inching built in
Lens drives (remotely adjustable)	Iris output: direct drive for 3 motor lens or auto iris override voltage. In auto-iris mode output returns to preset level 15 seconds after manual iris control. Preset level is adjustable. Outputs have red/green LEDs to indicate direction and voltage
Presets Lens 10 bit resolution Head 12 bit resolution	Inputs for pan, tilt, zoom & focus preset feedback pots Up to 32 full scene presets: pan/tilt/zoom/focus (16 with BBV & Baxall up the coax protocols)
Alarm facilities	8 alarm inputs from volt free normally closed contacts Output 1 normally closed volt free contact can be set to operate immediately or when the preset is approached after an alarm input *NOTE: The output is used for iris override when using Fujinon or Pentax lens mode*
Additional facilities	Software random pan/sequential preset patrol with individual programmable preset dwell/Datum - return to preset 1, start preset patrol or random pan after menu set duration of inactivity
Features	LED readout for continual system status. Programming menu with in-built LCD display and screen display 12V dc/500mA un-switched output Colour coded outlets – live, neutral, earth, low voltage

PAN & TILT

A highly stable, robust and reliable platform, the Slowspeed system's P&T is a version of MAD's Homburg heavy duty head, with pan and tilt speeds modified to less than 0.1°/sec min. to 10°/sec max. For specification see pages 8-11.

ENVIRONMENTAL HOUSING

Compact, yet roomy enough to accommodate the equipment needed for the system's long distance survellance role, the Homburg Slowspeed's housing is a modified version of the IP66 rated 902 model from MAD's Mitre range. For details see pages 12-13.

madcctv.com