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Driver Assistance

Technical Specification Sheet

MPI
SAVING LIVES

ΠPI
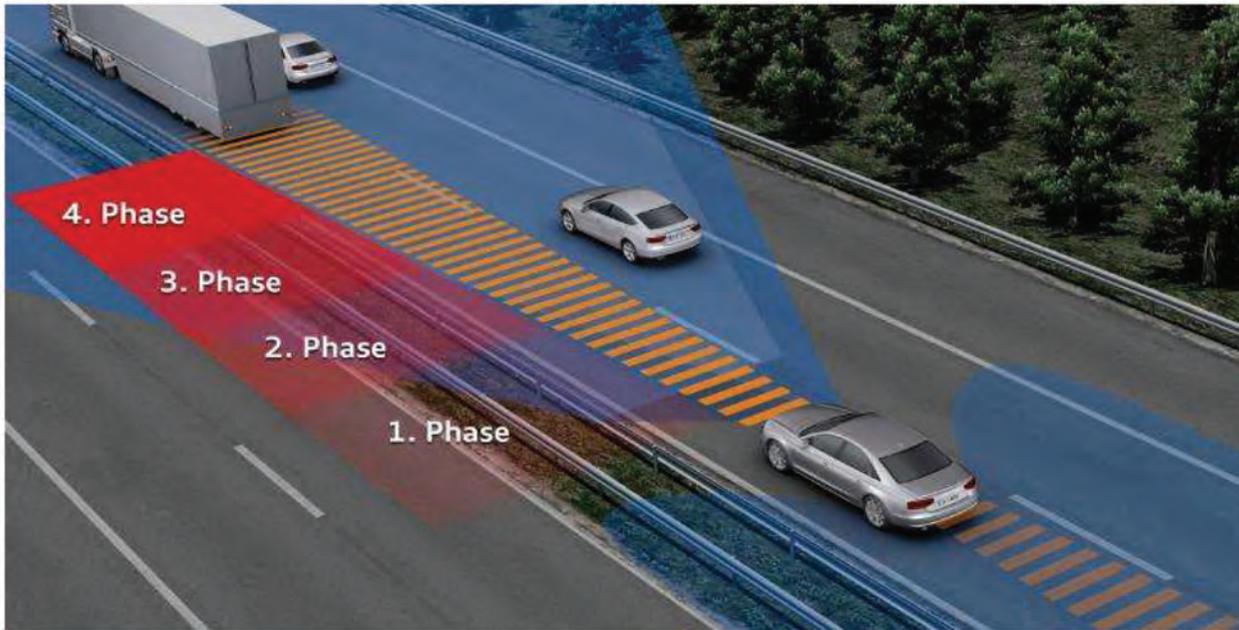
Driver assistance, also known as advanced driver-assistance systems (ADAS), are technologies used to make motor vehicle travel safer by automating, improving or adapting some or all of the tasks involved in operating a vehicle.

Summary

Camera Systems	Parking Sensors	Fatigue Monitor	DVR	MCS
• Single/Dual/Quad View • 360° View • Dash Cams • Wireless Camera	• Algorithm Detection • Ultrasonic Technology • OEM Design	• Calling detection alarm • Smoking detection alarm • Fatigue detection alarm • Driver abnormal alarm	• Integration with all vehicle camera systems • 8 Channel HDD MDVR with dual SD card slots	• Self diagnostics • Polarity protected • Various vehicle applications

Camera Systems

Product Overview

- 170° wide angle lens
- 7 inch display screen
- Automatically records video
- Supports loop recording
- Supports reversing video camera
- Drive start simultaneously
- Stores videos on memory card

- Low illumination high-definition video
- Capture clear images in low light condition
- One cameras to four can display on the screen simultaneously (quad view)
- Mainly powered by car charge, automatically turns off to protect the battery when it's down
- Can be installed on all vehicle types

Application

- Automotive vehicles
- Heavy duty vehicles
- Mining vehicles & machinery
- Farming vehicles & machinery
- Small & Large Fleets

Single, Dual & Quad View

Installed on 1 to 4 sides of the the vehicle for clear picture of vehicle surroundings

360 Degree View

Enables driver to see top of vehicle for total view of surrounding areas

Dash Cams

Real-time video streaming continuously records activity in front of vehicle

Wireless Camera

Wireless camera system specifically designed for cranes and forklifts

Single, Dual & Quad View Cameras

Mid Spec (Standard) Reverse Camera

Camera Main Features

- 65 ft night vision distance 120° view angle rear view backup camera with 2.5mm 480p lens
- Sensor: 1/4 Sharp CCD, CMOS or Sony optional
- Audio: optional
- Effective pixels: NTSC/510×492 pixels, PAL/500×582 pixels
- TV line: 420
- Lens: 1.7 mm
- Minimum illumination: 0 Lux (LED ON)
- Infrared IR LED: 28 pcs built in
- Night vision distance: 65 ft
- Waterproof rating: IP69K
- View angle: 120° wide view angle
- Working voltage: DC 12V (DC 24V optional)
- Operation temperature: -20°C~70°C
- Automatic heating when the camera's running temperature is below 10°C (optional)
- Mounting place: can be mounted on either side of vehicles or car
- Optional colour: black, white, silver

Monitor Main Features

- Multi-languages of display available: English, Portuguese, Spanish, Russian, Swedish, Italian, Turkish, French, German, Japanese, Korean, Chinese
- With remote control function
- The monitor has speakers that can adjust the sound from the control panel or remote control
- Supports video input from two cameras at the same time
- Support audio input from two camera at a time (optional)
- Images can be flipped up and down from left to right
- The second camera has a trigger control line and automatically switches when triggered
- In standby mode, it will start up automatically when triggered and switch to the corresponding camera image
- The working power supply range is 12~24V, with short circuit protection function of power supply

- Screen Size: 7"/16:9
- Resolution: 1024(W) * R.G.B * 600(H)
- TV System: AUTO
- Brightness: 300cd/m²
- Contrast: 500:1
- Active Area: 154.08(W) × 85.92(H) mm
- Viewing Angle: U/D:50°/70°,R/L:70°/70°
- Image Settings: Brightness, Color, Contrast
- Video Format: AHD
- Mirror Flip: Non-mirror, mirror, flip, mirror flip
- Video Channel: Two channel video input
- Reverse Function: Single way back (ruler setting function)
- Reversing Delayed: 0-15s
- Scale Function: One scale ruler and automatic ruler switch
- Power Supply: 12/24V, DC/<6W
- Operating Temperature: -20° to +65°C
- Storage Temperature: -25° to +70°C

Single, Dual & Quad View Cameras

High Spec (Premium) Reverse Camera

Camera Main Features

- 18 Infrared LEDs for ultra-low light performance
- 15m illumination distance
- Audio
- Day / Night sensor
- Mirror view
- 1/3" Sharp CCD
- TV System: PAL
- TV Lines: 420

Durability & Standards

- Mechanical vibration: 10G
- Mechanical shock: 100G
- Operating temperature: -20° to +70°C
- CE marked
- EMC approved: e
- HALT tested

Power

- Power consumption: 2.4 Watts
- Current: 0.2 Amps

- Viewing angle (HxVxD) 90 x 71 x 120°
- IP67
- Size (WxHxD) 81 x 71 x 70mm

Monitor Main Features

- 'Button-lock' anti tamper feature
- 5 Auto-triggers
- Mirror / Normal switching from menu
- On-screen distance markers
- Audio
- Sun shield
- Multi-lingual menus
- Auto-switching PAL / NTSC

Picture Quality

- LED backlighting (gives 20,000 hours life)
- Anti-glare screen
- Resolution: 800 x 3 x 480
- Contrast ratio: 500:1
- Brightness: 400cd/m2
- Viewing angles: Side 70° x Top 50° x Bottom 60°

Durability & Standards

- Mechanical vibration: 3G
- Operating temperature: -30° to +70°C
- CE marked
- EMC approved: e

Power

- Power consumption: 15 watts
- Current: 1.3 Amps

- 12-24Vdc
- 4 camera inputs
- Size (WxHxD) 182 x 122 x 43mm

7"

Single   Split   Triple   Quad

Picture in picture
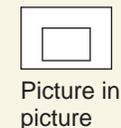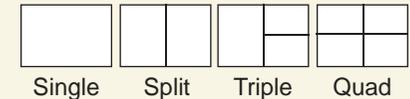
Plus additional in-built image options

360 Degree Camera

360 Degree Camera (Premium only)

Product Specifications

- Operating Voltage: 12/24v
- Current Consumption: ≤1.23A @12v
- Power Consumption: 15W Max
- TV System: NTSC
- Output Resolution: 720 x 480
- Camera Resolution: 640 x 480
- Camera Viewing Angle: 185°(H) x 142°(V)
- Number of Video Inputs: 4
- Number of Video outputs: 2
- Number of Triggers In: 3
- Camera Signal to Noise Ratio: 63dB
- Required Illumination: 0.5 Lux
- Video Input: 1.0 Vp-p / 75Ω
- Video output 1.0 Vp-p / 75Ω
- ECU Overall Dimensions: 170x126.4x 36
- Camera Overall Dimensions: 35.4 x 60.7 x 45.8
- System Weight: 1815g
- Length of Cable:
    Camera Pigtail: 1000mm
    ECU Camera Pigtails: 269mm
    ECU input/output Pigtails: 245mm
- Cable Thickness:
    Power Cable: 22AWG
    Trigger Cable: 22AWG
- ECU Casing Material: Folded Aluminium
- Camera Casing material: Die Cast Aluminium
- Camera Garnish material: Die cast Zinc Alloy
- ECU Colour: Black
- Camera Colour: Black
- Camera garnish Colour: Silver

Features

- User selectable views via View select button (dependant on system setup)
- Triggered views (Rear, Left & Right) (dependant on system setup)
- Ultra Wide viewing angle cameras

Contents

- 1x ECU
- 1x ECU Harness
- 1x Video output cable
- 1x Set-up & View Select button
- 4x Camera with mount
- 4x Alloy camera Garnish
- 1x Fitting kit
- 1x User guide
- 1x Isolation gasket kit

Environmental Specifications

- Vibration Rating: 1G
- Shock Rating 50G
- Camera IP Rating: IP69K
- Camera Connector IP Rating: IP69K
- Operating Temperature: -30°C ~ +75°C
- Storage Temperature: -40°C ~ +85°C
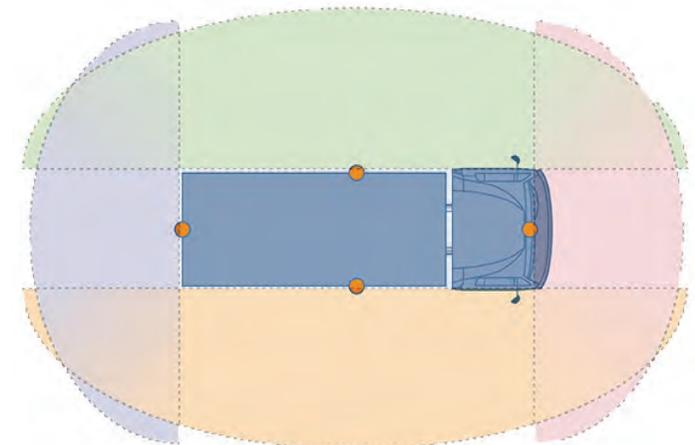
Dash Cams

Mid Spec (Standard) Dash Cams

	HD 1.5" Display Dash Camera	HD 2.7" Display Dash Camera	Full HD 2.0" Display Dash Camera
Video resolution max.	1920x1080 @ 25fps	1920x1080 @ 25fps	192x1080 @ 30fps
Camera resolution max.	12 Mega Pixels	12 Mega Pixels	14 Mega Pixels
Display size	1.5"	2.7"	2.0"
Lens type	4 element glass	4 element glass	6 element glass
Viewing angle	120°	120°	140°
Aperture	F/2.5	F/2.4	F/2.0
Battery	200mA Li-Po	200mA Li-Po	110mA Li-Po
Storage card (not included)	Up to 32GB	Up to 32GB	Up to 32GB
Audio recording	✓	✓	✓
Shock sensor	✓	✓	✓
Loop recording	✓	✓	✓
Auto start / stop	✓	✓	✓
Night vision LEDs	✓	✓	-
Number plate stamp	-	✓	-
GPS tracking	-	-	✓
Playback software	-	-	✓
USB port	✓	✓	✓
HDMI port	-	✓	✓
Weight	42g	56g	95.9g
Dimensions (mm) (L x W x H)	65 x 42 x 39	87 x 54 x 44	99 x 40 x 23

HD 1.5" Display Dash Camera

HD 2.7" Display Dash Camera

Full HD 2.0" Display Dash Camera

Dash Cams

High Spec (Premium) Dash Cam

Dashcam (Premium) Product Specifications

- Color/Size/Weight:
  - Front: Black / Width 118.5 mm x Height 36 mm / 90 g
  - Rear: Black / Width 67.4 mm x Height 25 mm / 25 g
- Memory: microSD Card (16 GB / 32 GB / 64 GB/ 128 GB)
- Recording Modes: Normal recording, Event recording, Manual recording and Parking recording (when motion is detected)
- Camera:
  - Front: Sensor (Approx. 2.1 M Pixel)
  - Rear: Sensor (Approx. 2.1 M Pixel)
- Viewing Angle:
  - Front: Diagonal 139°, Horizontal 116°, Vertical 61°
  - Rear: Diagonal 139°, Horizontal 116°, Vertical 61°
- Resolution/Frame Rate:
  - Front: Full HD (1920x1080) @ 30 fps
  - Rear: Full HD (1920x1080) @ 30 fps
    * Resolution/frame rate can be changed.
    * Frame rate may vary during Wi-Fi streaming.
    * Sports Mode:
  - Front: Full HD (1920x1080) @ 60 fps
  - Rear: Full HD (1920x1080) @ 30 fps
- Image Quality: Highest, High, Normal
- Video Compression Mode: MP4
- Wi-Fi: Built-in
- GPS: Built-in
- Microphone: Built-in
- Speaker (Voice Guidance): Built-in

- LED Indicators:
  - Front: Recording LED, GPS LED, Wi-Fi LED, Front Security LED
  - Rear: Rear Security LED
- Sensor: 3-Axis Acceleration Sensor
- Backup Battery: Built-in super capacitor
- Input Power: DC 12-24V (DC Plug: (Ø3.5 x Ø1.35), MAX 1A/12V)
- Power Consumption:
  - Avg. 350 mA (4.2 W at 12 V, when GPS and Wi-Fi is On)
  - Avg. 300 mA (3.6 W at 12 V, when GPS and Wi-Fi is Off)
    * Actual power consumption may vary depending on conditions and environment.
- Operation Temperature: -20° to 70°C
- Storage Temperature: -20° to 70°C
- High Temperature Cut-Off: Approx. 80°C

Contents

- Front camera
- Rear camera
- Quick start guide
- Power cord
- Cable clips (8 EA)
- Double-sided tape for mounting the brackets
- MicroSD card
- MicroSD card reader
- Rear camera connection cable
- Pry tool

Wireless Camera System

Wireless Camera System (cranes / forklifts)

Camera Main Features

- Product name: Forklift/Crane camera
- Type: Camera with magnet base and cube
- Power Supply: 12V
- TV System: PAL/NTSC
- Sensor: 1/3 CMOS3089
- TV Line: 600TVL
- Eff ective Pixels: 720 H×480V
- Sensing Area: 0.158inch*0.121inch
- Lens: F=5.32mm
- Lens Angle: 70°
- Horizontal Angle: 60°
- Vertical Angle: 33°
- Microphone: NO
- Video Output: 1.0VP-P.75 ohm
- AGC: Auto
- BLC: Auto
- S/N Ratio: ≥48db
- Scanning System: 2:1 Interlace
- Sync. System: inter-sync
- White Balance: Auto
- Electronic Shutter: 1/50/60-1/10000 seconds
- Minimum Illumination: 0Lux (IR ON)
- Operating Temperature: -30°C to +70°C

Monitor Main Features

- Screen Size: 7"/16:9
- Resolution: 1024(W) * R.G.B * 600(H)
- TV System: AUTO
- Brightness: 300cd/m²
- Contrast: 500:1
- Active Area: 154.08(W) × 85.92(H) mm
- Viewing Angle: U/D:50°/70°,R/L:70°/70°
- Image Settings: Brightness, Color, Contrast
- Video Format: AHD
- Mirror Flip: Non-mirror, mirror, flip, mirror flip
- Video Channel: Two channel video input
- Reverse Function: Single way back (ruler setting function)
- Reversing Delayed: 0-15s
- Scale Function: One scale ruler and automatic ruler switch
- Power Supply: 12/24V, DC/<6W
- Operating Temperature: -20° to +65°C
- Storage Temperature: -25° to +70°C

Waterproof Transmission Box

- Power Supply: DC 10-32V
- TV System: AUTO
- Op. frequency: 2400-2483.5MHz
- Waterproof: IP66
- Line of slight Range: 120M
- Video Codec: MPEG4
- Receiving Sensitivity: -89dBm
- RF Bit Rate: 4Mbps
- Spred spectrum: FHSS
- Latency: 120mS
- Operating Temp: -20~+70°C RH90%
- Storing Temp: -30~+80°C RH90%

Waterproof Receive Box

- Power Supply: DC 10-32V
- TV System: AUTO
- Waterproof: IP66
- Op. frequency: 2400-2483.5MHz
- Line of slight Range: 120M
- Video Codec: MPEG4
- Receiving Sensitivity: -17dBm
- RF Bit Rate: 4Mbps
- Spred spectrum: FHSS
- Latency: 120mS
- Operating Temp: -20~+70°C RH90%
- Storing Temp: -30~+80°C RH90%

Waterproof Battery Box (2x Options)

Large Battery:
- Battery capacity: 12v 5200amh
- Working time: About 16 hours
- Waterproof: IP66
- Charging: support

Small Battery:
- Battery capacity: 12v 2600amh
- Working time: About 8 hours
- Waterproof: IP66
- Charging: support

Reverse Camera (Standard) with Sensors

Camera Main Features

- Robust rear view camera
- Easy installation.
- Image Type : CCD,700TVL
- TV System: NTSC/PAL
- Vibration Rate: 10G
- Mirror image
- 120 degree
- 4P lock connector
- Built-in Lens : 2.8mm
- Waterproof & Dust resistance grade : IP68
- Night Vision function: 9pcs LED lamp
- Lens with lamp at the left and right side
- Power:12VDC(+/-10%)
- Video Output: 1.0vp-p, 75Ohm,
- Power Consumption: <3W
- Operating temperature: -40° to +80°C
- Storage temperature: -40° to +85°C

Monitor Main Features

The color TFT LCD monitor is designed for automotive rear view system.

- With built-in control box function
- Support two camera inputs
- With built-in speaker
- With remote controller
- Automatically adjust the display mode according to the quantity of camera inputs
- Automatically switches to the camera when triggered.Trigger priority: CAM 1>CAM 2
- 7 languages OSD display
- Mirror/Normal image can be set in the MENU for each camera separately
- PAL/NTSC optional
- Automatically adjust the brightness according to the environmental
- luminance.
- Auto dimming function
- With high-low voltage protection
- With short-circuit protection

Contents

- 4 x sensors
- 4 x 0° flush mount fixings
- 4 x 11° flush mount fixings
- 4 x underslung fixings
- 1 x Waterproof control box
- 4 x 2.5m sensor cable
- 1 x Φ28mm drill, 16x screw, 10x plastic tie

Option

- 1 x 7" LCD monitor (BR-TM7001)
- 1 x rear camera(BR-RVC16)
- 1x 7m camera cable(BR-TC7)
- 1 x 15m monitor cable(BR-TC15)

Park Distance Sensors

Reverse Camera (Premium) with Sensors

Camera and Monitor

For information and specs on the camera and monitor used for this system, please see the page on our **High Spec (Premium) Reverse Camera.**

Reverse Sensors
4 sensor system fitted to rear of vehicle as an invaluable aid to safe reversing.
- Underslung or flush mount installation
- System activated by reverse gear

Side Sensors
4 sensor system fitted to side of vehicle. Particularly relevant for the near side blind spot, where cyclists or pedestrians can otherwise go undetected.
- Underslung or flush mount sensors
- System can be activated below designated speed and/or turn indicator
- Optional external speaking alarm with side turn warning
- Intelligent mute function

Front Sensors
4 sensor system fitted to front of vehicle. Particularly relevant for front blind spot on high cabs where low objects or pedestrians can be hidden.
- System can be activated below designated speed

Corner Sensors
3 sensor system fitted to near side corner of vehicle cab to detect objects in the front near side blind spot. Minimises the risk of damage to the vehicle whilst manoeuvring and turning whilst reversing.

Step Sensors
2 sensor system fitted to nearside cab step. Minimises the risk of damage to the vehicle when turning whilst reversing.

Sensors Main Features

- Overlay on monitor of vehicle icon and detection data from up to two ultrasonic detection systems
- Compatible with 1 x Sidescan, Frontscan and Backscan
- UDS overlay will appear on a black background if no cameras installed
- Graphics can be overlaid left or right on the monitor
- Audible warning via monitor
- Ultrasonic system fault displayed on monitor
- Compatible with MDR

- Allows 3-stage audible and visual ultrasonic data to be overlayed onto camera image on vehicle monitor
- 12-24Vdc
- 2 camera inputs
- 2 trigger inputs
- 2 UDS inputs
- 2 UDS outputs

Contents

- OSD ECU
- Power cable
- Splitter cable
- Trigger cable

Durability & Standards

- Operating temperature:
  - -30 to +70ºC
  - +22 to +158°F
- Dimensions: (WxDxH)
  - 74 x 118 x 28 mm
  - 2.9 x 4.6 x 1.1"
- CE marked
- EMC approved: E
- FCC Approved
- IC Approved
- IP30

Power

- Power consumption: 1.7 Watts
- Current: 140mA

Driver/Fatigue Monitor

Product Overview

Driver Status Monitor (DSM) is a driving auxiliary warning system that is based on machine vision technology to detect abnormal driving status. It can detect and alert the driver on various conditions, including fatigue, distraction, smoking and telephonic use while driving.

Specifications

Items		Parameters
Sensing parameters	Sensor	1/3"1280*720 CMOS
	Shutter	1/50 seconds to 1/100000 seconds
	S/N	>45dB
	Minimum illumination	0 Lux
	Size	M12
	Gain control	Support (Default is 0)
	White balance means	Black white mode
	Backlight compensation means	Support (Default is off)
	Mirror adjustment	Support (Default is off)
	Exposure mode	Support (Default is auto)
Infrared supplement light	IR distance is 2 m	
Video output	720P	
Power	Power supply	DC12V, DC7V-DC15V With anti-reverse function to meet the vehicle application requirements.
	Power consumption	Less than 5.0W (IR is on)

Features

- Supports IPC resolution 720P & 1080P
- Supports 940 supplement light
- P54 water proof and dust proof design
- Driver calling detection alarm
- Driver smoking detection alarm
- Driver fatigue detection alarm
- Driver abnormal alarm (when there is no driver / driver not at the right place)
- Works stably in various environments

Please view our demo video here:
https://youtu.be/0lKO5P9pI0I

Digital Video Recorder

Product Overview

- Channel HDD MDVR with dual SD card slots
- Wide Power voltage input support DC6V - 36V
- Support G-Sensor, GPS/3G/WIFI
- Support Rs485 PTZ control 8 sensor inputs
- Support both 64GB SD cards and IT SATA 2.2 inch HDD
- Video Standard PAL (625 TVL, 5 fps), NTSC (525 TVL, 60 fps)
- Event search, channel search & log retrieval
- Back Up by the network, USB, SATA writer

Benefits

- DVR connected with camera vehicle system records all videos automatically while vehicle is in use.
- Data can be recalled on hard drive and enables user to make backup of visual recordings

Application

- Automotive vehicles
- Heavy duty vehicles
- Mining vehicles & machinery
- Farming vehicles & machinery
- Small & Large Fleets

Multi Control Switch

Product Overview

- Centralized electronic control unit
- Siren 100W or 200W
- CANbus input
- Dual charging battery management
- Self diagnostics
- Polarity protection
- 12VDC / 24VDC compatible
- No output fuses are required, as each output is electronically fused
- No more multiple connections, as each output is wired directly from MCS to the load, eliminating voltage drops
- Run lock option
- Can be specifically programmed to suit the application

Beacons and Lightbars
Collision Avoidance and Radar/s
Back-up Alarms
Cameras
Lights and Spotlights

Application

- All vehicles with multiple applications

- Central power distribution box to control all equipment.
- Prevents flat batteries.
- Self diagnostic panel to identify a fault instantly.

- Controls flash patterns, sirens, and headlights.
- Dual battery management.
- CANbus compatible

- Multiple device connection at once which draws less power from the battery.
- Connects interior lights, fridges, solar panels, allowing them to be switched on/off at specific times.

- The MCS does not allow battery draining due to high power equipment on board.
- Switched off lights.
- Eliminates voltage drops.

OUR BRANCHES

GAUTENG

Address:
Unit 10, The Stewards
Industrial Park, c/o Main
Reef rd and Beryl str,
Benoni, Gauteng, SA
Contact:
+27 (0) 10 020 0515

MPUMALANGA

Address:
Unit 3, Midway Park,
November str, Extension
33, Middelburg,
Mpumalanga, SA
Contact:
+27 (0) 13 244 1677

KWAZULU-NATAL

Address:
Unit 2, Hillmax, 31
Hillclimb rd, Westmead,
Pine Town, KZN, SA
Contact:
+27 (0) 31 700 6378

NORTHERN CAPE

Address:
13 Ian Flemming
Road, Kathu,
Northern Cape, SA
Contact:
+27 (0) 15 690 0982

WESTERN CAPE

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9 Tedric ave, Stikland,
Cape Town, Western
Cape, SA
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