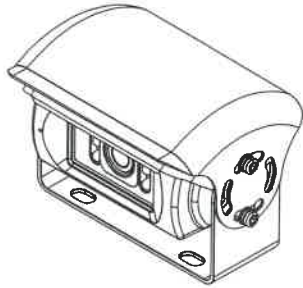


ECC-M90C

Owner's Manual



- 1 COMPOSITION
- 2 INSTALLATION
- 3 CONNECTION WIRING
- 4 CAMERA INPUT CONNECTOR PIN DESCRIPTION
- 5 LENS SPECIFICATION
- 6 FEATURES
- 7 SPECIFICATIONS

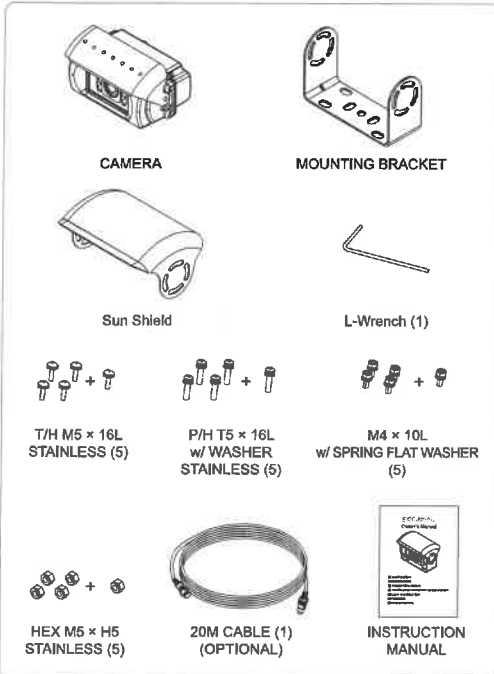
CAUTION BEFORE USAGE

1. PLEASE USE THE PRODUCT AFTER READING THE MANUAL CAREFULLY FOR SAFE USAGE. PLEASE INSTALL AND USE THE PRODUCT AFTER FULLY AWARE OF THE MANUAL AND PRECAUTION.
2. ASK EXPERIENCED TECHNICIAN FOR PRODUCT INSTALLATION. INSTALLATION SHOULD BE DONE BY THE TECHNICIAN DUE TO PROFESSIONAL SKILLS AND EXPERIENCE IS REQUIRED.
3. DO NOT INSTALL, OPEN OR MODIFY THE PRODUCT RANDOMLY. IT CAN CAUSE PRODUCT MALFUNCTION, ELECTRIC SHOCK, FIRE AND ALSO WATERPROOF PROBLEM FOR WATERPROOF PRODUCT. CONTACT THE SERVICE CENTER AND ASK FOR A/S, IF REPAIRS ARE NECESSARY.
4. USE REGULATED VOLTAGE. PROTECTION CIRCUIT IS BUILT INSIDE BUT OVER VOLTAGE USAGE CAN CAUSE DAMAGE TO THE PRODUCT. MANUFACTURER WILL NOT TAKE RESPONSIBILITY FOR THE PRODUCT MALFUNCTION CAUSED BY OVER VOLTAGE.
5. DO NOT DROP OR GIVE EXTERNAL SHOCK TO THE PRODUCT. THE PRODUCT SCREEN OR EXTERIOR CAN BE DAMAGED AND CAUSE MALFUNCTION OF THE INTERNAL PARTS. IN THIS CASE NORMAL CUSTOMER SUPPORT AND A/S CAN'T BE RECEIVED.
6. CONNECT THE MAIN POWER AFTER INSTALLATION. IT CAN CAUSE PRODUCT MALFUNCTION, FIRE AND ELECTRIC SHOCK.
7. USE AUTHORIZED ACCESSORY & COMPONENTS. USING UNAUTHORIZED ACCESSORY & COMPONENTS CAN CAUSE PRODUCT MALFUNCTION AND THE MANUFACTURER WILL NOT TAKE RESPONSIBILITY FOR THE MALFUNCTION.
8. THE PRODUCT IS DESIGNED FOR NORMAL CONDITION USAGE. PLEASE FULLY CONSULT AND DISCUSS WITH YOUR DEALER OR MANUFACTURER IF YOU NEED TO USE THE PRODUCT IN SPECIAL CONDITION. OTHERWISE, IT CAN PRODUCT MALFUNCTION IN ABNORMAL CONDITION USAGE.

SAFETY & CAUTION DURING THE USAGE

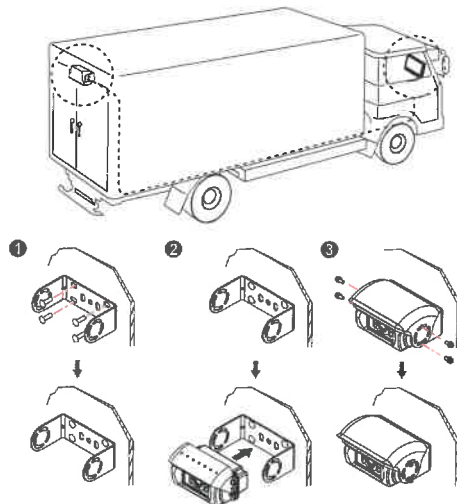
- DO NOT CUT OR DAMAGE THE CABLE RANDOMLY. IT CAN CAUSE PRODUCT MALFUNCTION OR WATERPROOF FUNCTION DEFECT. MANUFACTURER WILL NOT TAKE RESPONSIBILITY FOR THE MALFUNCTION.
- DO NOT DROP THE PRODUCT IN THE WATER OR KEEP IN HUMID PLACE FOR A LONG TIME. IT WILL BE CLASSIFIED AS INUNDATION REASON AND WON'T BE ABLE TO GET FREE A/S SERVICE. (NON-WATERPROOF MONITOR)
- DO NOT WRAP THE PRODUCT WITH ANY FABRIC WHILE OPERATING. DUE TO INTERNAL TEMPERATURE RISING, IT CAN CAUSE PRODUCT MALFUNCTION OR FIRE.
- AVOID SEVERE ELECTROSTATIC CONDITION. IT CAN CAUSE PRODUCT MALFUNCTION.
- DO NOT PILE UP HEAVY STUFF IN THE PRODUCT. IT CAN CAUSE PRODUCT PROBLEMS OR DAMAGE.
- IF ANY DEBRIS IS FOUND INSIDE OF THE PRODUCT, DISCONNECT THE POWER CABLE AND VISIT THE A/S CENTER. IT CAN CAUSE ELECTRIC SHOCK OR MALFUNCTION WHEN USED CONTINUOUSLY.
- DO NOT CLEAN THE PRODUCT WITH CHEMICAL PRODUCT. (ALCOHOL, BENZENE, ACETONE AND ETC) IT CAN CAUSE DAMAGE OF THE PRODUCT SURFACE OR PRODUCT MALFUNCTION.
- * USE REGULATED VOLTAGE FOR EACH CAMERA. (REFER PRODUCT SPECIFICATION)**
- * DO NOT CUT THE CABLE RANDOMLY.**
- * OUR COMPANY WILL NOT TAKE RESPONSIBILITY IN CASE OF PRODUCT DAMAGE DUE TO CONSUMER'S NEGLIGENCE.**
- TIGHTEN THE CONNECTORS WHEN CONNECTING THE EXTENSION CABLE. OTHERWISE, IT CAN CAUSE CONNECTION PROBLEM OR WATERPROOF FUNCTION DEFECT OF THE PRODUCT.
- CHECK THE FIXED CONDITION OF THE BRACKET AND PRODUCT BEFORE DRIVING. IT CAN CAUSE DAMAGE WHILE DRIVING IN UNSTABLE CONDITION BY PHYSICAL PHENOMENONS. MANUFACTURER WILL NOT TAKE RESPONSIBILITY FOR USER'S NEGLIGENCE.
- DO NOT USE THE PRODUCT IMMEDIATELY AFTER LEAVING ALONE FOR A LONG PERIOD IN SUMMER OR WINTER. IT CAN CAUSE SERIOUS DAMAGE TO THE PRODUCT WHEN USING IN INAPPROPRIATE TEMPERATURE.
- THE SHUTTER DOES NOT WORK IN FREEZING CONDITIONS. PLEASE USE AFTER THAWING. (THE MOTOR IS PROTECTED BY THE APPLIED SLIP TORQUE) (SHUTTER APPLIED MODEL ONLY)
- STOP USING THE PRODUCT IMMEDIATELY IF BURNING SMELL, SMOKE OR SEVERE OVERHEATING OCCURS WHILE USAGE AND VISIT THE A/S CENTER.
- MAKE SURE THE CONNECT POWER CABLE AND CAMERA CABLE IN RIGHT DIRECTION. WRONG WIRE CONNECTION CAN CAUSE DAMAGE TO THE PRODUCT.

1 COMPOSITION



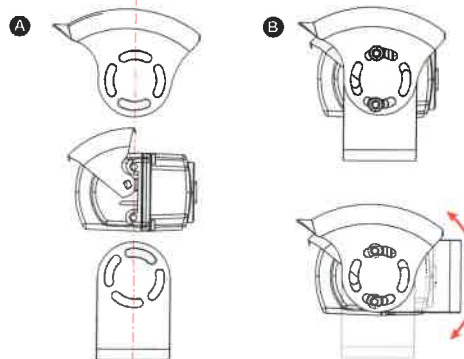
2 INSTALLATION

Install camera firmly the adequate position of vehicle after checking camera's field of view. Cameras can be installed at suitable position of vehicle's rear side according to user's convenience. Ask your dealer or experienced technician how to install camera and monitor due to different type of vehicle.

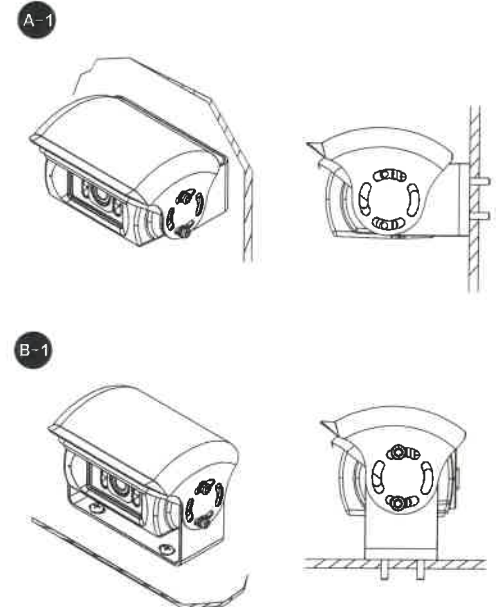


1. Fix the supplied mounting bracket to the vehicle.
 2. Adjust angle of the camera.
 3. Adjust angle of mounting bracket and fix it to camera. Fasten the screw firmly adjusting camera & mounting bracket.
- * Adjust mounting bracket angle to avoid lens field of view & sun light.
* Fasten the screw firmly to avoid product's damage or operation.

HOW TO ADJUST CAMERA SUN SHIELD & ANGLE



- A. Recommended guideline for assembling mounting bracket.
- B. User can adjust the installing angle.



3 CONNECTION WIRING

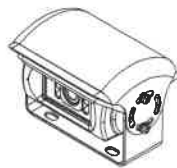
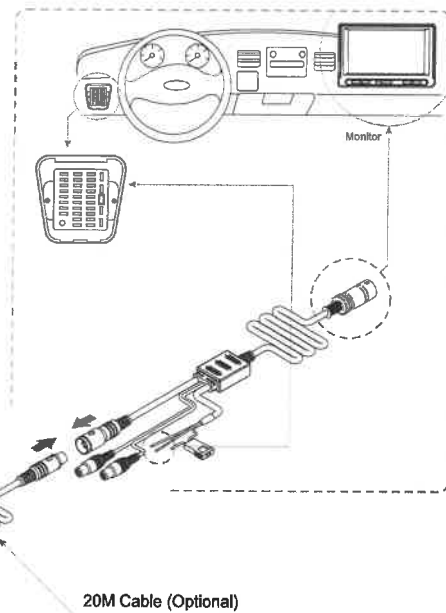
CONNECT CAMERA & MONITOR AFTER CHECKING SPECIFICATION OF MONITOR & EXTENSION CABLE.
CONNECT POWER & GROUND WIRE OF MONITOR TO FUSE BOX VEHICLE WHEN YOU CONNECT MONITOR POWER.

- POWER CONNECTION SHOULD BE CHOSEN BY USER ACCORDING TO POWER SUPPLY CONDITIONS.
CONNECT CAMERA BACK CABLE WITH EXTENSION CABLE AND THEN CONNECT EXTENSION CABLE WITH MONITOR.

USE ACID FREE VASELINE OR GREASE INSIDE OF CONNECTOR BEFORE FIXATION FOR A GUARANTEED LONG LIFETIME.

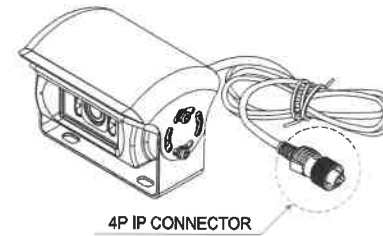
CONNECT CAMERA BACK CABLE WITH EXTENSION CABLE. FIRMLY AFTER CHECKING MALE & FEMALE CONNECTOR.

OTHERWISE, IT CAUSES PRODUCTS PROBLEM.

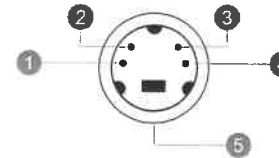


20M Cable (Optional)

4 CAMERA INPUT CONNECTOR PIN DESCRIPTION

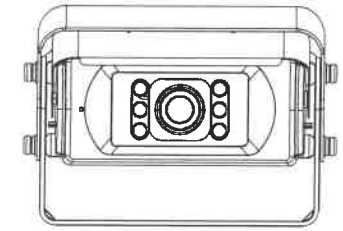


4P IP CONNECTOR



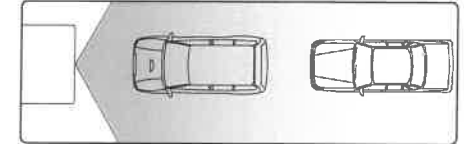
Pin No.	Description
1	Video (YELLOW)
2	Shutter (BLUE)
3	Audio (WHITE)
4	Power DC 12V (RED)
5	Ground (BLACK)

5 LENS SPECIFICATION

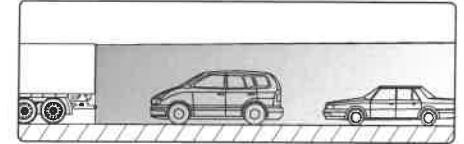


DIAGONAL ANGLE : 140 DEGREE

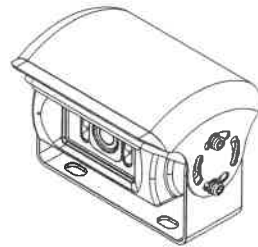
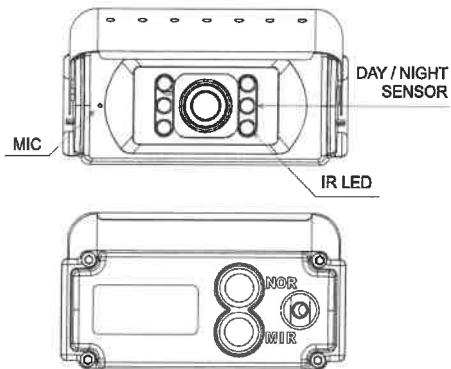
• HORIZONTAL FIELD OF VIEW



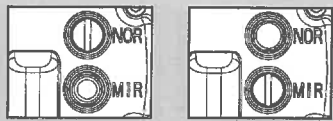
• VERTICAL FIELD OF VIEW



6 FEATURES



- 1/3.2" Mega pixel High resolution CMOS Sensor
- High Performance in Low Light with IR LED
- Power Input DC 12V
- Normal / Mirror Image Switching (Patented)
- Auto Electronic IRIS
- Auto Heating
- Auto Shutter
- Vandal Resistant
- Waterproof IP69K
- Optical Axis Corrected
- Built in Microphone

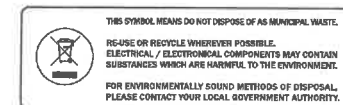


• HOW TO CHANGE MIRROR & NORMAL IMAGE

Change magnet screw position, MIR of NOR using driver.

7 SPECIFICATIONS

Model No.	ECC-M90C
Image	Mega pixel High Resolution CMOS Sensor
Picture Element	1.23 Megapixels
Image Size	1/3.2 Inch
Lens	Diagonal Angle : 140 degree
Synchronization	Internal
Horizontal Resolution	More than 700TV Lines (CVBS)
Min. Illumination	0 Lux w/ IR LED
Signal To Noise Ratio	Better than 50dB (at AGC off)
Power Input	DC 12V
Vibration	10G
Shock	100G
Waterproof IP Factor	IP 69K
Operation Temp.	-40°C ~ 85°C (-40°F ~ 185°F)
Case Material	Window : Flat Glass Body : Aluminium
Weight	Approx. 320g
Dimensions	103(W) × 43(H) × 64(D)mm
Supplied Accessories	Sun Shield Mounting Bracket Screw Kits 20M Cable (Optional) Instruction Manual



* Design and specifications are subject to change without notice.
* Patent registered.

" Perfect Quality, On-Time Delivery & Speedy A/S "