

LTC 948x Series



Security Systems

EN | Instruction Manual
Housings

BOSCH

Important Safeguards

1. **Read, Follow, and Retain Instructions** - All safety and operating instructions should be read and followed before operating the unit. Retain instructions for future reference.
2. **Heed Warnings** - Adhere to all warnings on the unit and in the operating instructions.
3. **Attachments** - Attachments not recommended by the product manufacturer should not be used, as they may cause hazards.
4. **Installation Cautions** - Do not place this unit on an unstable stand, tripod, bracket, or mount. The unit may fall, causing serious injury to a person and serious damage to the unit. Use only manufacturer-recommended accessories, or those sold with the product. Mount the unit per the manufacturer's instructions. Appliance and cart combination should be moved with care. Quick stops, excessive force, or uneven surfaces may cause the appliance and cart combination to overturn.
5. **Cleaning** - Unplug the unit from the outlet before cleaning. Follow any instructions provided with the unit. Generally, using a damp cloth for cleaning is sufficient. Do not use liquid cleaners or aerosol cleaners.
6. **Servicing** - Do not attempt to service this unit yourself. Opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
7. **Damage Requiring Service** - Unplug the unit from the main AC power source and refer servicing to qualified service personnel under the following conditions:
 - When the power supply cord or plug is damaged.
 - If liquid has been spilled or an object has fallen into the unit.
 - If the unit has been exposed to water and/or inclement weather (rain, snow, etc.).
 - If the unit does not operate normally, when following the operating instructions. Adjust only those controls specified in the operating instructions. Improper adjustment of other controls may result in damage, and require extensive work by a qualified technician to restore the unit to normal operation.
 - If the unit has been dropped or the cabinet damaged.
 - If the unit exhibits a distinct change in performance, this indicates that service is needed.
8. **Replacement Parts** - When replacement parts are required, the service technician should use replacement parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electrical shock or other hazards.
9. **Safety Check** - Upon completion of servicing or repairs to the unit, ask the service technician to perform safety checks to ensure proper operating condition.
10. **Power Sources** - Operate the unit only from the type of power source indicated on the label. If unsure of the type of power supply to use, contact your dealer or local power company.
 - For units intended to operate from battery power, refer to the operating instructions.
 - For units intended to operate **with External Power Supplies**, use only the recommended approved power supplies.
 - For units intended to operate with a limited power source, this power source must comply with EN60950. Substitutions may damage the unit or cause fire or shock.
 - For units intended to operate at 24VAC, normal input voltage is **24VAC**. Voltage applied to the unit's power input should not exceed 30VAC. User-supplied wiring, from the 24VAC supply to unit, must be in compliance with electrical codes (Class 2 power levels). Do not ground the 24VAC supply at the terminals or at the unit's power supply terminals.
11. **Coax Grounding** - If an outside cable system is connected to the unit, ensure that the cable system is grounded. U.S.A. models only - Section 810 of the National Electrical Code, ANSI/NFPA No.70, provides information regarding proper grounding of the mount and supporting structure, grounding of the coax to a discharge unit, size of grounding conductors, location of discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
12. **Grounding or Polarization** - This unit may be equipped with a polarized alternating current line plug (a plug with one blade wider than the other). This safety feature allows the plug to fit into the power outlet in only one way. If unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact an electrician to arrange replacement of the obsolete outlet. Do not defeat the safety purpose of the polarized plug. Alternately, this unit may be equipped with a 3-wire grounding plug (a plug with a third pin, for grounding). This safety feature allows the plug to fit into a grounding power outlet only. If unable to insert the plug into the outlet, contact an electrician to arrange replacement of the obsolete outlet. Do not defeat the safety purpose of the grounding plug.
13. **Lightning** - For added protection during a lightning storm, or when this unit is left unattended and unused for long periods of time, unplug the unit from the wall outlet and disconnect the cable system. This will prevent damage to the unit due to lightning and power line surges.

For Indoor Product

1. **Water and Moisture** - Do not use this unit near water - for example, in a wet basement, in an unprotected outdoor installation or in any area classified as a wet location.
2. **Object and Liquid Entry** - Never push objects of any kind into this unit through openings, as they may touch dangerous voltage points or short out parts that could result in a fire or electrical shock. Never spill liquid of any kind on the unit.
3. **Power Cord and Power Cord Protection** - For units intended to operate with 230VAC, 50Hz, the input and output power cord must comply with the latest versions of IEC Publication 227 or IEC Publication 245.
Power supply cords should be routed so they are not likely to be walked on or pinched. Pay particular attention to location of cords and plugs, convenience receptacles, and the point of exit from the appliance.
4. **Overloading** - Do not overload outlets and extension cords; this can result in a risk of fire or electrical shock.

For Outdoor Product

Power Lines - An outdoor system should not be located in the vicinity of overhead power lines, electric lights or power circuits, or where it may contact such power lines or circuits. When installing an outdoor system, extreme care should be taken to keep from touching power lines or circuits, as this contact might be fatal. U.S.A. models only - refer to the National Electrical Code Article 820 regarding installation of CATV systems.

For Rack-mount Product

1. **Ventilation** - This unit should not be placed in a built-in installation or rack, unless proper ventilation is provided, or the manufacturer's instructions have been adhered to. The equipment must not exceed its maximum operating temperature requirements.
2. **Mechanical Loading** - Mounting of the equipment in a rack shall be such that a hazardous condition is not achieved due to uneven mechanical loading.

Safety Precautions



CAUTION

RISK OF ELECTRIC SHOCK. DO NOT OPEN!



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol indicates the presence of uninsulated "dangerous voltage" within the product's enclosure. This may constitute a risk of electric shock.



The user should consult the operating and maintenance (servicing) instructions in the literature accompanying the appliance.









Attention: Installation should be performed by qualified service personnel only in accordance with the National Electrical Code or applicable local codes.



Power Disconnect. Units with or without ON-OFF switches have power supplied to the unit whenever the power cord is inserted into the power source; however, the unit is operational only when the ON-OFF switch is in the ON position. The power cord is the main power disconnect for all units.







Sicherheitshinweise

	VORSICHT ELEKTRISCHE SPANNUNG. NICHT ÖFFNEN!	
<p>VORSICHT: UM EINEN ELEKTRISCHEN SCHLAG ZU VERMEIDEN, IST DIE ABDECKUNG (ODER RÜCKSEITE) NICHT ZU ENTFERNEN. ES BEFINDEN SICH KEINE TEILE IN DIESEM BEREICH, DIE VOM BENUTZER GEWARTET WERDEN KÖNNEN. LASSEN SIE WARTUNGSARBEITEN NUR VON QUALIFIZIERTEM WARTUNGSPERSONAL AUSFÜHREN.</p>		
	Das Symbol macht auf nicht isolierte „gefährliche Spannung“ im Gehäuse aufmerksam. Dies kann zu einem elektrischen Schlag führen.	
	Der Benutzer sollte sich ausführlich über Anweisungen für die Bedienung und Instandhaltung (Wartung) in den begleitenden Unterlagen informieren.	
	Achtung! Die Installation sollte nur von qualifiziertem Kundendienstpersonal gemäß jeweils zutreffender Elektrovorschriften ausgeführt werden.	
	Unterbrechung des Netzanschlusses. Geräte mit oder ohne Netzschalter haben Spannung am Gerät anliegen, sobald der Netzstecker in die Steckdose gesteckt wird. Das Gerät ist jedoch nur betriebsbereit, wenn der Netzschalter (EIN/AUS) auf EIN steht. Wenn das Netzkabel aus der Steckdose gezogen wird, ist die Spannungszuführung zum Gerät vollkommen unterbrochen.	

Sécurité

	ATTENTION RISQUE D'ÉLECTROCUTION. NE PAS OUVRIR !	
<p>ATTENTION : POUR ÉVITER TOUT RISQUE D'ÉLECTROCUTION, N'ESSAYEZ PAS DE RETIRER LE CAPOT (OU LE PANNEAU ARRIÈRE). CET APPAREIL NE CONTIENT AUCUN COMPOSANT SUSCEPTIBLE D'ÊTRE RÉPARÉ PAR L'UTILISATEUR. CONFIEZ LA RÉPARATION DE L'APPAREIL À DU PERSONNEL QUALIFIÉ.</p>		
	Ce symbole signale que le produit renferme une « tension potentiellement dangereuse » non isolée susceptible de provoquer une électrocution.	
	Ce symbole invite l'utilisateur à consulter les instructions d'utilisation et d'entretien (dépannage) reprises dans la documentation qui accompagne l'appareil.	
	Attention : l'installation doit exclusivement être réalisée par du personnel qualifié, conformément au code national d'électricité américain (NEC) ou au code d'électricité local en vigueur.	
	Coupeure de l'alimentation. Qu'ils soient pourvus ou non d'un commutateur ON/OFF, tous les appareils reçoivent de l'énergie une fois le cordon branché sur la source d'alimentation. Toutefois, l'appareil ne fonctionne réellement que lorsque le commutateur est réglé sur ON. Le débranchement du cordon d'alimentation permet de couper l'alimentation des appareils.	

Precauciones de Seguridad

	ATTENZIONE PERICOLO DI SCOSSA ELETTRICA. NON APRIRE.	
<p>PRECAUCIÓN: PARA DISMINUIR EL RIESGO DE DESCARGA ELÉCTRICA, NO RETIRE LA CUBIERTA (NI LA PARTE POSTERIOR). NO EXISTEN PIEZAS DE RECAMBIO EN EL INTERIOR DEL EQUIPO. EL PERSONAL DE SERVICIO CUALIFICADO SE ENCARGA DE REALIZAR LAS REPARACIONES.</p>		
	Este símbolo indica que existen puntos de tensión peligrosos sin aislamiento dentro de la cubierta de la unidad. Estos puntos pueden constituir un riesgo de descarga eléctrica.	
	El usuario debe consultar las instrucciones de funcionamiento y mantenimiento (reparación) en la documentación que se suministra con el aparato.	
	Atención: la instalación la debe realizar únicamente personal cualificado de conformidad con el National Electric Code o las normas aplicables en su país.	
	Desconexión de la alimentación. Las unidades con o sin interruptores de encendido/apagado reciben alimentación eléctrica siempre que el cable de alimentación esté conectado a la fuente de alimentación. Sin embargo, la unidad sólo funciona cuando el interruptor está en la posición de encendido. El cable de alimentación es la principal fuente de desconexión de todas las unidades.	

Veiligheidsmaatregelen

	VOORZICHTIG GEVAARVOOR ELEKTRISCHE SCHOK. NIET OPENEN!	
<p>VOORZICHTIG: OPEN DE BEHUIZING OF DE ACHTERKANT VAN HET APPARAAT NIET. ZO VERMINDERT U HET RISICO OP ELEKTRISCHE SCHOKKEN. IN HET APPARAAT BEVINDEN ZICH GEEN ONDERDELEN DIE U ZELF KUNT REPAREREN. LAAT SERVICE EN ONDERHOUD UITVOEREN DOOR GEKWALIFICEERD PERSONEEL.</p>		
	Dit symbool geeft aan dat er binnen in het apparaat ongeïsoleerde, gevaarlijke spanning aanwezig is die mogelijk elektrische schokken kan veroorzaken.	
	De gebruiker dient de bedienings- en onderhoudsvorschriften te raadplegen in de documentatie die werd meegeleverd met het apparaat.	
	Attentie: het apparaat mag alleen door gekwalificeerd personeel worden geïnstalleerd. De installatie dient in overeenstemming met de nationale elektrische richtlijnen of de van toepassing zijnde lokale richtlijnen te worden uitgevoerd.	
	Spanning uitschakelen. Apparatuur met of zonder aan-uitschakelaar staat onder spanning zolang de stekker is aangesloten op de wandcontactdoos. De apparatuur is uitsluitend in werking als de aan-uitschakelaar aan staat. Het netsnoer is de "hoofdschakelaar" voor alle apparatuur.	

Medidas de Segurança

	CUIDADO RISCO DE CHOQUE ELÉCTRICO. NÃO ABRIR!	
<p>CUIDADO: PARA REDUZIR O RISCO DE CHOQUE ELÉCTRICO, NÃO RETIRE A TAMPA (OU A PARTE POSTERIOR). NO INTERIOR, NÃO EXISTEM PEÇAS QUE POSSAM SER REPARADAS PELO UTILIZADOR. REMETA A ASSISTÊNCIA PARA OS TÉCNICOS QUALIFICADOS.</p>		
	Este símbolo indica a presença de "tensão perigosa" não isolada dentro da estrutura do produto, o que pode constituir risco de choque eléctrico.	
	O utilizador deve consultar as instruções de funcionamento e manutenção (assistência) nos documentos que acompanham o aparelho.	
	Atenção: a instalação deve ser executada apenas por técnicos qualificados de acordo com o código eléctrico nacional ou os códigos locais aplicáveis.	
	Corte de corrente. As unidades com ou sem interruptores ON-OFF (ligar/desligar) recebem corrente sempre que o fio de alimentação está introduzido na fonte de alimentação; contudo, a unidade apenas está operacional quando o interruptor ON-OFF está na posição ON. O fio de alimentação destina-se a desligar a corrente em todas as unidades.	

Sicurezza

	ATTENZIONE PERICOLO DI SCOSSA ELETTRICA. NON APRIRE.	
<p>ATTENZIONE: PER RIDURRE IL RISCHIO DI SCOSSA ELETTRICHE NON RIMUOVERE LA COPERTURA (O IL PANNELLO POSTERIORE). L'UNITÀ NON CONTIENE COMPONENTI INTERNI RIPARABILI DALL'UTENTE. PER QUALSIASI INTERVENTO, RIVOLGERSI A PERSONALE TECNICO QUALIFICATO.</p>		
	Questo simbolo indica la presenza di "tensione pericolosa" non isolata all'interno del contenitore del prodotto. Ciò comporta un potenziale rischio di scosse elettriche.	
	Si consiglia di consultare le istruzioni operative e di manutenzione (interventi tecnici) contenute nella documentazione fornita con il dispositivo.	
	Attenzione: l'installazione deve essere effettuata esclusivamente da personale tecnico qualificato in conformità con il National Electrical Code o con le normative locali vigenti.	
	Scollegamento dell'alimentazione. Le unità dotate o sprovviste di interruttori ON-OFF vengono alimentate quando si inserisce il cavo nella presa dell'alimentazione. L'unità è tuttavia in funzione solo quando l'interruttore ON-OFF si trova nella posizione ON. Il cavo di alimentazione costituisce il dispositivo di scollegamento dell'alimentazione principale per tutte le unità.	

安全预防措施

	CAUTION RISK OF ELECTRIC SHOCK. DO NOT OPEN!	
<p>注意：为避免受到电击，不要拆除机盖（或后盖）。用户不得擅自维修里面的部件。有关维修事项，请咨询合格的维修人员。</p>		
	此符号表示产品机壳内存在未绝缘的“危险电压”。这可能导致电击。	
	用户应参照设备附带的操作和维护（维修）说明。	
	注意：安装须由合格的维修人员遵照美国国家电工标准或相关电气规则进行。	
	断开电源。在电源线插入电源时，配备或未配备 ON-OFF 开关的设备都已通电；但设备只有在 ON-OFF 开关处于 ON 位置时才能工作。对于所有设备，电源线是断开电源的主要方式。	

Table of Contents

Important Safeguards	2
1 UNPACKING	7
2 ACCESSORIES	7
2.1 Sunshields	7
2.2 Tamperproof Kit	7
2.3 Heater Kit	7
3 SERVICE	7
4 CARE AND MAINTENANCE	8
5 DESCRIPTION	8
6 INSTALLATION	8
6.1 Model Designation	8
6.2 Maximum Camera/Lens Size	8
6.3 Tools Required	8
6.4 Cable Requirements	9
6.5 Housing Mounting	9
6.6 Cover Removal	9
6.7 Camera/Lens Installation	10
6.8 Camera/Lens Wiring	11
6.9 Video Coax Connection	13
6.10 Lens Wiring	13
6.11 Camera/Lens Adjustment	13
6.12 Final Assembly	13
6.13 Fuse Replacement	14
7 EXPLODED VIEW	15
7.1 Parts List	15

1 UNPACKING

This mechanical should be unpacked and handled carefully.

Check for the following items:

Housing (with correct model number)

Hardware Kit - LTC 9480 & LTC 9483 Series Models:

Qty.	Item
1	1/4-20 x 3/8in. Button Head Screw
2	1/4-20 x 1/2in. Button Head Screw
2	1/4in. Spring Washers
1	5/16in. Flat Washer
2	Fittings, 3/8in. NPT
2	Rubber Plug, 1/2in. NPT
1	Nut, 3/8in. NPT
2	Fittings, 1/2in. NPT
2	Nut, 1/2in. NPT
1	Spacer Block

Hardware Kit - LTC 9484 & LTC 9488 Series Models:

Qty.	Item
	1/4-20 x 3/8in. Button Head Screw
3	1/4-20 x 1/2in. Button Head Screw
1	1/4-20 x 5/8in. Button Head Screw
1	1/4-20 x 3/4in. Button Head Screw
1	1/4-20 x 7/8in. Button Head Screw
2	1/4in. Spring Washers
1	5/16in. Flat Washer
2	Fittings, 3/8in. NPT
2	Rubber Plug, 1/2in. NPT
1	Rubber Plug, 3/8in. NPT
1	Nut, 3/8in NPT
2	Fittings, 1/2in. NPT
2	Nut, 1/2in. NPT
4	Spacer, 0.4mm
4	Spacer, 3.2mm

If an item appears to have been damaged in shipment, replace it properly in its carton and notify the shipper. If any items are missing, notify your Bosch Security Systems Inc. Sales Representative or Customer Service.

The shipping carton is the safest container in which the unit may be transported. Save it for possible future use.

2 ACCESSORIES

2.1 Sunshields

Provide protection from the direct rays of sun and promote cooling to reduce internal housing temperatures. Strongly recommended for housing to be used outdoors.

LTC 9083/01: For LTC 9483 Series Housings

LTC 9083/01S: For LTC 9480 Series Housings

LTC 9084/01: For LTC 9484 Series Housings

LTC 9088/01: For LTC 9488 Series Housings

2.2 Tamperproof Kit

Contains tamper resistant screws and bit key to tamperproof up to five housings.

LTC 9080/00: For all LTC 9480 Series Housings

2.3 Heater Kit

LTC 9480/20HTR: Heater Kit for LTC 9480 Housing only

3 SERVICE

If the unit ever needs repair service, the customer should contact the nearest Bosch Security Systems, Inc. Service Center for return authorization and shipping instructions.

Service Centers

USA

Phone: 800-366-2283 or 717-735-6638

fax: 800-366-1329 or 717-735-6639

CCTV Spare Parts

Phone: 800-894-5215 or 408-956-3853 or 3854

fax: 408-957-3198

e-mail: BoschCCTVparts@ca.slr.com

Canada

Phone: 514-738-2434

Europe, Middle East & Asia Pacific Region

Phone: 32-1-440-0711

For additional information, see www.boschsecuritysystems.com.

4 CARE AND MAINTENANCE

Regularly scheduled maintenance will help prolong the operation life of this unit. Clean the viewing window as needed with a mild, nonabrasive detergent in water and a soft cloth.

5 DESCRIPTION

The LTC 948x Series Housings are smart, stylized housings for indoor and outdoor use. These housings meet customers demands for an attractive housing that is both cost-competitive and easy to install. They are available in multiple sizes to fit a wide range of cameras and lenses.

6 INSTALLATION

This installation should be made by a qualified service person and conform to all local codes.

6.1 Model Designation

Model No.	Preinstalled Heater or Heater/Blower ¹	Voltage/Power V/W	Use with Camera Models with These Voltage Ratings
Indoor/Outdoor Units			
LTC 9480/00	---	---	24
LTC 9483/00	---	---	24, 115, 230
LTC 9484/00	---	---	24, 115, 230
LTC 9488/00	---	---	24, 115, 230
Outdoor Units			
LTC 9480/20	Heater	24/15	24
LTC 9483/20	Heater	24/23	24
LTC 9483/21	Heater/Blower	24/25	24
LTC 9483/50	Heater	230/23	230
LTC 9483/60	Heater	115/23	115
LTC 9483/61	Heater/Blower	115/28	115
LTC 9484/20	Heater	24/23	24
LTC 9484/21	Heater/Blower	24/25	24
LTC 9484/50	Heater	230/23	230
LTC 9484/60	Heater	115/23	115
LTC 9484/61	Heater/Blower	115/28	115
LTC 9488/20	Heater	25/40	24
LTC 9488/21	Heater/Blower	24/42	24
LTC 9488/50	Heater	230/40	230
LTC 9488/60	Heater	115/40	115
LTC 9488/61	Heater/Blower	115/45	115

¹The heaters and blowers for all models operate at 50/60Hz.

Do Not Exceed 30VAC Input on 24VAC models. Operation above 30VAC violates low voltage operation (Class 2 Specifications). Normal operation is 24VAC.

TUV Approved 24VAC Models



CAUTION: Use an approved power supply incorporating reinforced insulation from primary to secondary to isolate unit from Mains.

6.2 Maximum Camera/Lens Size

LTC 9480/00: 68 W x 54 H x 197 L mm (2.68 x 2.1 x 7.75in.)

LTC 9480/20: 68 W x 54 H x 197 L mm (2.68 x 2.1 x 7.75in.)¹

LTC 9483/00: 68 W x 54 H x 267 L mm (2.68 x 2.1 x 10.5in.)

LTC 9483/20: 68 W x 54 H x 267 L mm (2.68 x 2.1 x 10.5in.)¹

LTC 9483/50: 68 W x 54 H x 267 L mm (2.68 x 2.1 x 10.5in.)¹

LTC 9483/60: 68 W x 54 H x 267 L mm (2.68 x 2.1 x 10.5in.)¹

LTC 9483/21: 68 W x 54 H x 216 L mm (2.68 x 2.1 x 8.5in.)²

LTC 9483/51: 68 W x 54 H x 216 L mm (2.68 x 2.1 x 8.5in.)²

LTC 9483/61: 68 W x 54 H x 216 L mm (2.68 x 2.1 x 8.5in.)²

LTC 9484/00: 71 W x 71 H x 279 L mm (2.8 x 2.8 x 11in.)

LTC 9484/20: 71 W x 71 H x 279 L mm (2.8 x 2.8 x 11in.)¹

LTC 9484/21: 71 W x 71 H x 229 L mm (2.8 x 2.8 x 9in.)²

LTC 9484/50: 71 W x 71 H x 279 L mm (2.8 x 2.8 x 11in.)¹

LTC 9484/60: 71 W x 71 H x 279 L mm (2.8 x 2.8 x 11in.)¹

LTC 9484/61: 71 W x 71 H x 229 L mm (2.8 x 2.8 x 9in.)²

LTC 9488/00: 71 W x 71 H x 356 L mm (2.8 x 2.8 x 14.0in.)

LTC 9488/20: 71 W x 71 H x 356 L mm (2.8 x 2.8 x 14.0in.)¹

LTC 9488/50: 71 W x 71 H x 356 L mm (2.8 x 2.8 x 14.0in.)¹

LTC 9488/60: 71 W x 71 H x 356 L mm (2.8 x 2.8 x 14.0in.)¹

LTC 9488/21: 71 W x 71 H x 318 L mm (2.8 x 2.8 x 12.5in.)²

LTC 9488/51: 71 W x 71 H x 318 L mm (2.8 x 2.8 x 12.5in.)²

LTC 9488/61: 71 W x 71 H x 318 L mm (2.8 x 2.8 x 12.5in.)²

¹With heater.

²With heater and blower.

6.3 Tools Required

- Small flat blade screwdriver
- Phillips screwdriver (P2)
- Adjustable wrench
- Wire cutter/stripper/crimper tool
- 5/32in. (or 4mm) hex wrench

6.4 Cable Requirements

Video Transmission (Coaxial)	
Cable Type	RG-59/U (Runs < 300m (1000ft)) RG-11/U (Runs < 600m (2000ft))
Cable Size	Outside diameter between 4.6mm and 7.9mm (0.181in. and 0.312in.)
Cable Shape	Round
Shield	≥ 93% Braided Copper Shield
Center Conductor	Stranded Copper Center
DC Resistance	≥ 15Ω/1000ft (RG-59/U) ≥ 6Ω/1000ft (RG-11/U)
Cable Impedance	75Ω
Agency Rating	UL
Environmental	Outdoor rated
Temperature Rating	≥ 80 °C (176 °F)
Sources	Belden 9259 Belden 9238

Input Power Cord - North American	
Cable Type	SJTOW-A Rated
Cable Size	Outside diameter between 4.3mm and 11.9mm (0.170in. and 0.470in.)
Cable Shape	Round
Conductors	3 conductor version and 2 conductor version
Agency Rating	UL/C.S.A., UL VW-1
Environmental	Outdoor rated
Temperature Rating	105 °C (221 °F)
Voltage Rating	300 V
Sources	Belden 19506 Belden 19509 Northwire 573939

Input Power Cord - European	
Cable Type	H05RN-F3G0.75 and H05RN-F3G1.00
Cable Size	Outside diameter between 4.3mm and 11.9mm (0.170in. and 0.470in.)
Cable Shape	Round
Conductors	3 conductor version and 2 conductor version
Agency Rating	VDE
Environmental	Outdoor rated
Sources	Olflex 1600252 Olflex 1600253

Lens Control Cable	
Cable Type	Jacketed Multiconductor Cable
Cable Size	Outside Diameter between 4.3mm and 11.9mm (0.170in. and 0.470in.)
Cable Shape	Round
Shield	Overall shielding
Conductors	Stranded 20 to 16 AWG wire
No. of Conductors	4 and 8
Conductor Insulation	Color coded
Sources	Belden 9552 Belden 9554

6.5 Housing Mounting

1. Use the two 1/4-20 x 0.50in. screws and 1/4in. spring washers provided in the hardware kit to mount the housing to a mount or a pan/tilt. The spring washers must be used for the screws to thread properly.
2. The outermost set of 1/4-20 threaded holes are for mounting to feed-through mounts, and the innermost 1/4-20 holes are for mounting to all other mounts and pan/tilts.

6.6 Cover Removal

1. Loosen the top two screws on the rear of the housing. These screws are captive and will not come out all the way. Do not remove the bottom two screws. See FIGURE 1.

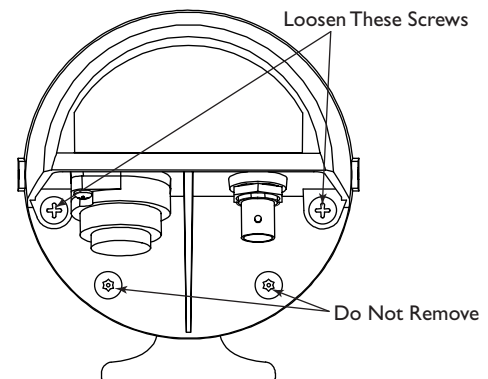


FIGURE 1 Loosening the Captive Screws

2. Grasp the housing's front cap and pull forward. Do not squeeze the cover itself. This will make it difficult to slide off the cover. See FIGURE 2.

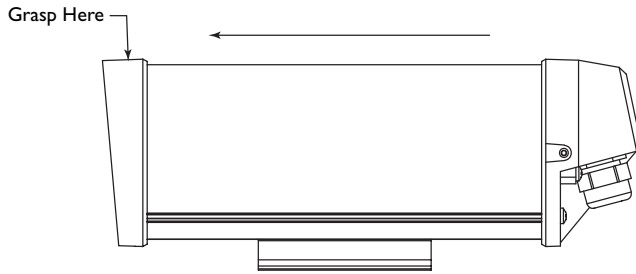


FIGURE 2 Removing the Cover

3. The cover is attached to the base. Allow the cover to dangle from the base.

6.7 Camera/Lens Installation

1. Loosen the two screws holding the camera bracket to the base. It is not necessary to remove them completely. See FIGURE 3.

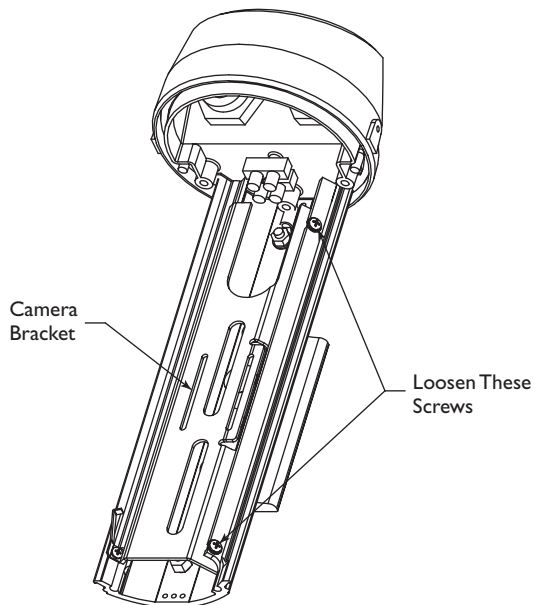


Figure 3 Removing the Camera Bracket

2. Remove the camera bracket from the base. If you are using the feed-through feature, refer to Section 6.8.3 at this time.

Mounting fixed lens cameras in LTC 9480 Series, LTC 9483 Series, LTC 9484 Series & LTC 9488 Series Housings

- 3a. Attach the lens to the camera.
- 3b. Use the 1/4-20 x 3/8in. screw to mount the camera to the camera bracket. The lens should extend approximately 6mm (0.25in.) from the front of the camera bracket. See FIGURE 4.

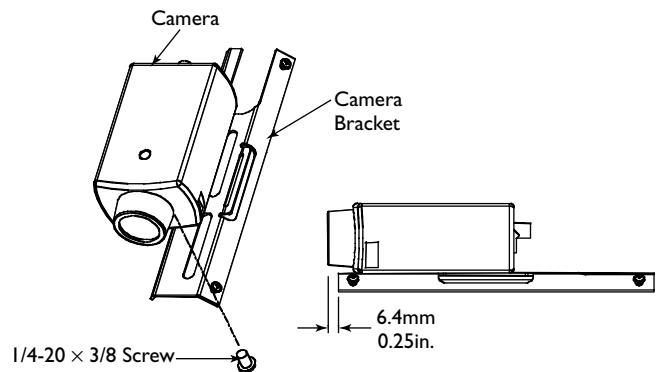


FIGURE 4 Attaching the Camera

6.8 Camera/Lens Wiring



WARNING: Use only the cables specified under **INSTALLATION, Cable Requirements** for wiring cameras and lenses.

6.8.1 Fittings

1. The two large 1/2in. NPT fittings accept round cable with diameters from 4.3mm to 11.9mm (0.17in. and 0.47in.). The small fittings will accept cables with diameters from 4.6mm to 7.9mm (0.181in. and 0.312in.).



Securely tighten all fittings to ensure a liquid-tight seal. Failure to do so could allow water to enter the housing and damage the camera and lens.

If a sealant will be used, be sure it is a neutral cure type. Sealants that release acetic acid may harm camera electronics.



Use of *drip loops* is recommended on the wiring outside of the rear endcap.

6.8.2 Conduit

These housings are designed to allow conduit to be directly connected.

1. Remove the rear fittings and attach the conduit and conduit fittings directly to the housing rear cap. The holes accept 1/2in. conduit fittings and PG 13.5 conduit fittings. Any unused holes can be covered using the plugs provided in the hardware kit.

6.8.3 Feed-through Wiring

These housings have the capability of having the cabling feed through the foot of the housing. This requires the use of feed-through mounts like the LTC 9215/00, LTC 9215/00S, or LTC 9219/01.

1. Prior to mounting the camera, remove the two dome plugs located inside the housing. See FIGURE 5.

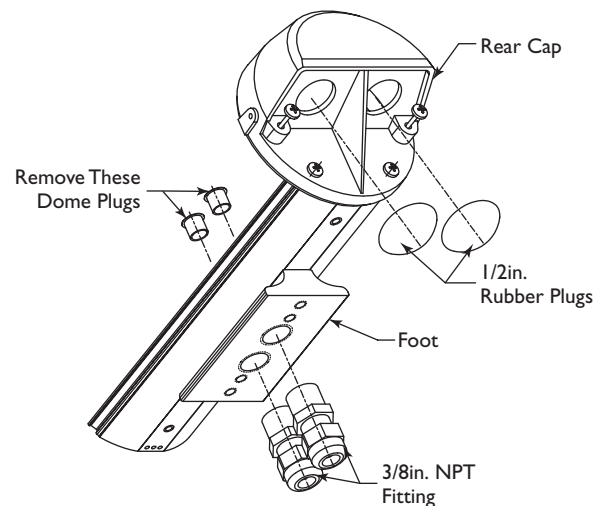


FIGURE 5: Feed-through Wiring

2. Screw the two 3/8in. NPT fittings into the foot of the housing.
3. Pull the cabling through the fittings and into the housing. Tighten the fitting to 4.0 N·m to 4.5 N·m (35in·lb to 40in·lb). This torque rating is approximately 1 to 1-1/2 turns past the point where the fitting starts to grip the wire. Failure to do so will result in water damage to all electronic parts.
4. Attach the foot to the top bracket of the mount.
5. Cover the holes in the rear cap with the rubber plugs provided. Push in until flush, and then release.

6.8.4 Power Connections

Power connection into the housings is to be supplied through a minimum type UL Standard *SJ* cord acceptable for outdoor use. Installation must conform to acceptable NEC and local codes. For 24 volt cameras, use the chart below for selecting the proper wire size.

Recommended Maximum Cable Lengths for Housings Equipped with 24 Volt Cameras, Heaters, and Blowers.

Wire Size		Housing Distance	
mm ²	AWG	meters	feet
0.5	20	28.6	94
1	18	45.7	150
1.5	16	70.1	230
2.5	14	115.5	379
4	12	183.8	603
6	10	292.6	960
10	8	464.2	1523

NOTE: The use of wire sizes larger than 1.5mm² (14AWG) will require a splice to accommodate the terminal block.

1. Install one of the large 1/2in. NPT fittings into one of the holes in the rear cap. The terminal block side is preferable. If using the feed-through option, ignore this step.
2. Route the power cable through the fitting in the rear cap or one of the feed-through fittings in the foot.
3. The terminal block provided on /x0 units accepts wire ranging from 20 to 14AWG or 1.5mm². The terminal block provided on /x1 units accepts wire ranging from 18 to 12AWG or 2.5mm². When using larger wire sizes, splice to a smaller size wire at the terminal block end. The splice may need to be enclosed in a junction box if it does not pass through the fittings.
4. A screw/terminal lug is provided for securing a safety ground. To attach the safety grounding wire (green 115 volt, green/yellow 230 volt), first unscrew the terminal lug and strip and crimp the grounding wire into the lug. Attach the terminal lug to the bracket using the M4 x 10 screw provided (LTC 9480/00 models use an M4 Nut to screw the lug to the base). See FIGURE 6.

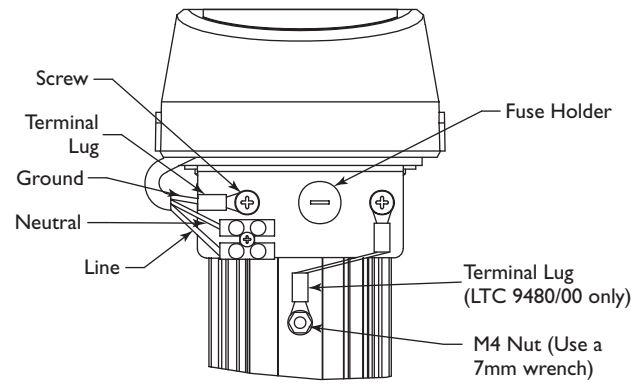


FIGURE 6 Power Connections - Non-fan Units

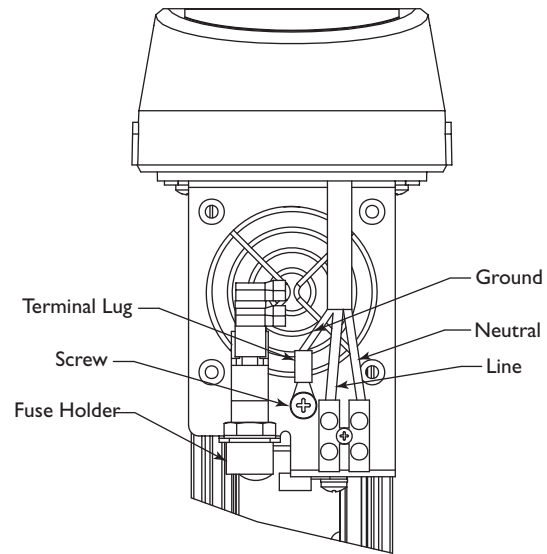


FIGURE 7 Power Connections - Fan Units

5. Pull any excess wire out of the housing and tighten the fitting to 8.5 N·m to 9.0 N·m (75in·lb to 80in·lb). This torque rating is approximately 1 to 1-1/2 turns past the point where the fitting starts to grip the wire.

Failure to do so will allow water to enter and damage all electronic parts.

Securely tighten all fittings to ensure a liquid-tight seal. Failure to do so could allow water to enter the housing and damage the camera and lens.

6. Connect the supply power wires to the left-side or the top of the terminal block provided. Strip no less than 6mm (0.25in.) and no more than 8mm (0.31in.) of insulation away from the wire. Do not nick the wires.

7. Cut the camera power cord, leaving enough cable to allow connection to the terminal block. Strip no less than 6mm (0.25in.) and no more than 8mm (0.31in.) of insulation away from the wire. Do not nick the wires. Connect these wires to the left-hand side or the top of the terminal block.
8. On heater and heater/blower units, make sure the heater and fan wires remain connected to the terminal block.

6.9 Video Coax Connection



WARNING: Use only the cables specified under **INSTALLATION, Cable Requirements** for wiring of the video coax connection.

1. For LTC 9483 and LTC 9480 versions, install a 1/2in. NPT fitting into the remaining hole in the rear cap. For LTC 9484 and LTC 9488 versions, install a 3/8in. NPT fitting through the center small hole of the rear cap.
2. Route the video coax cable through one of the fittings installed in step 1 or one of the feed-through fittings in the base.
3. Attach the BNC connector to the coax and connect it to the camera. Pull any excess wire out of the housing and tighten the fitting to 8.5 N·m to 9.0 N·m (75in·lb to 80in·lb). This torque rating is approximately 1 to 1-1/2 turns past the point where the fitting starts to grip the wire. Failure to do so will result in water damage to all electronic parts.



Securely tighten all fittings to ensure a liquid-tight seal. Failure to do so could allow water to enter the housing and damage the camera and lens.

Use of *drip loops* is recommended on the wiring outside of the rear end cap.

6.10 Lens Wiring



WARNING: Use only the cables specified under **INSTALLATION, Cable Requirements** for wiring the lens.

1. Install the last 1/2in. NPT fitting into the remaining hole in the rear cap. Zoom lenses can only be installed into LTC 9484 and LTC 9488 housings.
2. **If installing a zoom lens**, insert the lens control cable through the last fitting at the rear of the housing. Attach the lens wiring to the lens mating connector and connect it to the lens. If mating connector is not available, connect directly to the lens cable. Pull any excess wire out of the housing and tighten the fitting to 8.5 N·m to 9.0 N·m (75in·lb to 80in·lb). This torque rating is approximately 1 to 1-1/2 turns past the point where the fitting starts to grip the wire. Failure to do so will result in water damage to all electronic parts.

NOTE: See the specification on the lens cord for the correct plug connection.



Securely tighten all fittings to ensure a liquid-tight seal. Failure to do so could allow water to enter the housing and damage the camera and lens.

3. **If using a pan/tilt with a feed-through cable**, insert the camera/lens function cable in through the left-hand fitting at the rear of the cradle. Wire the functions as described above or as needed.

Use of *drip loops* is recommended on the wiring outside of the rear end cap.

6.11 Camera/Lens Adjustment

Verify camera and lens operation before final assembly of the cradle into the housing. Adjust the camera focus and iris as necessary. See individual camera instructions.

6.12 Final Assembly

1. Use the plugs or fittings provided to plug any remaining holes in the rear cap.
2. Reinstall the cover. Align the bottom of the cover ribs with the top of the base. Slide the cover onto the base. Make sure the seal is not folded over or torn. Use silicone grease to lubricate the seals if necessary. See FIGURE 8.

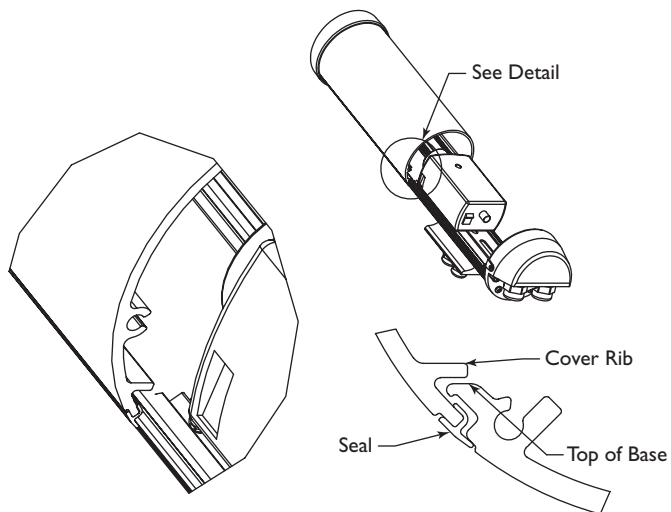


FIGURE 8 Reinstalling the Cover

3. As the cover nears the rear cap, make sure the captive screws in the back are not blocking the cover from engaging into the rear cap.
4. Screw the two rear captive screws into the housing.

6.13 Fuse Replacement

1. To replace a fuse, with a flat blade screwdriver and twist the top of the fuse holder counterclockwise about a quarter of a turn. The fuse is spring-loaded so it will eject.
2. Replace the fuse with a fuse that has the same current rating. The fuse is a 5x20mm slow blow cartridge type fuse. Littelfuse Series 218 is recommended.

7 EXPLODED VIEW

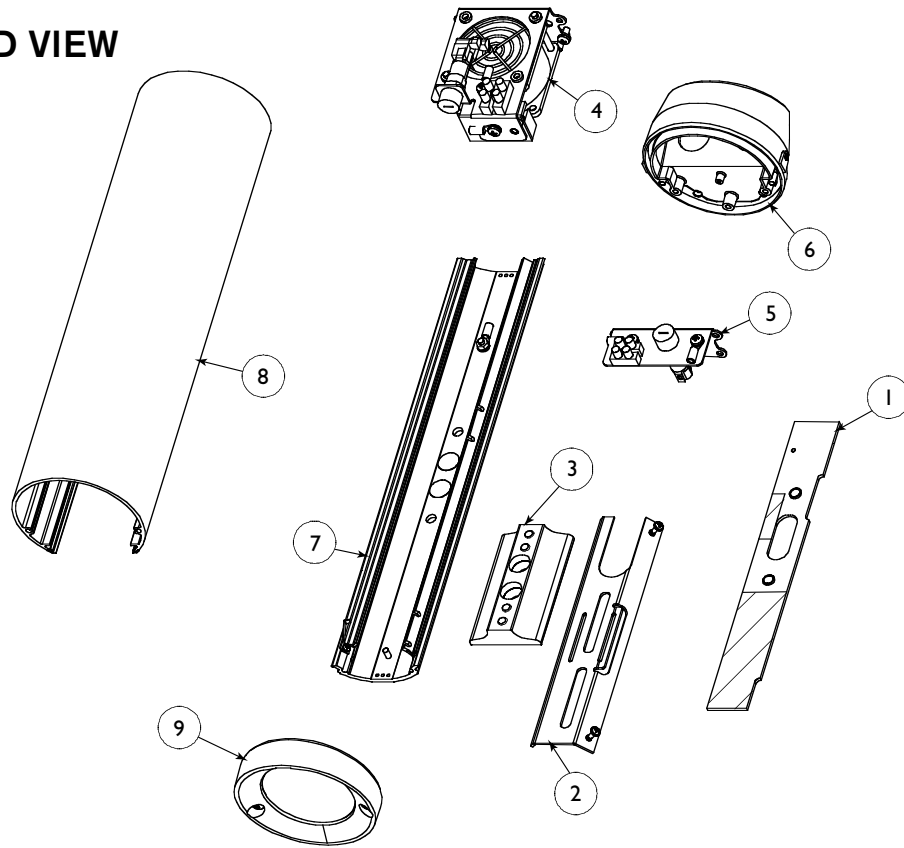


FIGURE 9

7.1 PARTS LIST

Ref No.	Drawing Number	Part Description
1	LTC 9480/20HTR	24VAC Heater Kit (LTC 9480 Models)
1	315 3369 020	24VAC Heater Kit (LTC 9483, LTC 9484)
1	315 3369 050	230VAC Heater Kit (LTC 9483, LTC 9484)
1	315 3369 060	115VAC Heater Kit (LTC 9483, LTC 9484)
1	315 3368 020	24VAC Heater Kit (LTC 9488)
1	315 3368 050	230VAC Heater Kit (LTC 9488)
1	315 3368 060	115VAC Heater Kit (LTC 9488)
2	315 3142 001	Camera Bracket Kit (LTC 9483)
2	315 3142 002	Camera Bracket Kit (LTC 9488)
2	315 3142 003	Camera Bracket Kit (LTC 9484)
3	315 3143 001	Foot Kit
4	315 3144 020	24VAC Fan Kit
4	315 3144 050	230VAC Fan Kit
4	315 3144 060	115VAC Fan Kit
5	315 3145 001	Wiring Bracket Kit
6	315 3146 001	Rearcap Kit for LTC 9483 Models
6	315 3146 003	Rearcap Kit for LTC 9484, LTC 9488 Models
7	315 3147 001	Base Kit for LTC 9480 Models
7	315 3147 002	Base Kit for LTC 9483 Models
7	315 3147 003	Base Kit for LTC 9488 Models
7	315 3147 004	Base Kit for LTC 9484 Models
8	315 3148 001	Cover Kit for LTC 9480 Models
8	315 3148 002	Cover Kit for LTC 9483 Models
8	315 3148 003	Cover Kit for LTC 9488 Models
8	315 3148 004	Cover Kit for LTC 9484 Models
9	315 3149 001	Frontcap Kit for LTC 9483 Models
9	315 3149 003	Frontcap Kit for LTC 9484, LTC 9488 Models
-	315 3062 001	Hardware Kit for LTC 9483 Models
-	315 3062 003	Hardware Kit for LTC 9484, LTC 9488 Models

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