

LTC 5136 Series



Security Systems

EN | Instruction Manual
AutoDome® Controller

BOSCH

Important Safeguards

1. Read Instructions - All safety and operating instructions should be read before the unit is operated.
2. Retain Instructions - The safety and operating instructions should be retained for future reference.
3. Heed Warnings - All warnings on the unit and in the operating instructions should be adhered to.
4. Follow Instructions - All operating and use instructions should be followed.
5. Cleaning - Unplug the unit from the outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
6. Attachments - Do not use attachments not recommended by the product manufacturer as they may cause hazards.
7. Water and Moisture - Do not use this unit near water - for example, in a wet basement, near a swimming pool, in an unprotected outdoor installation, or in any area classified as a wet location.
8. Accessories - 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 with a stand, tripod, bracket, or mount recommended by the manufacturer or sold with the product. Any mounting of the unit should follow the manufacturer's instructions and should use a mounting accessory recommended by the manufacturer.

An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



9. 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.
10. Power Sources - This unit should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply you plan to use, consult your dealer or local power company. For units intended to operate from battery power or other sources, refer to the operating instructions.

11. Grounding or Polarization - This unit may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug. Alternately, this unit may be equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.
12. Power Cord Protection - Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs, convenience receptacles, and the point where they exit from the appliance.
13. Power Lines - An outdoor system should not be located in the vicinity of overhead power lines or other electric light or power circuits or where it can fall into such power lines or circuits. When installing an outdoor system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal. U.S.A. models only - refer to the National Electrical Code Article 820 regarding installation of CATV systems.
14. Overloading - Do not overload outlets and extension cords as this can result in a risk of fire or electric shock.
15. 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 electric shock. Never spill liquid of any kind on the unit.
16. Servicing - Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

17. **Damage Requiring Service** - Unplug the unit from the outlet and refer servicing to qualified service personnel under the following conditions:
 - a. When the power supply cord or plug is damaged.
 - b. If liquid has been spilled or objects have fallen into the unit.
 - c. If the unit has been exposed to water and/or inclement weather (rain, snow, etc.).
 - d. If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to its normal operation.
 - e. If the unit has been dropped or the cabinet has been damaged.
 - f. When the unit exhibits a distinct change in performance--this indicates a need for service.
18. **Replacement Parts** - When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
19. **Safety Check** - Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.
20. **Coax Grounding** - If an outside cable system is connected to the unit, be sure the cable system is grounded. U.S.A. models only--Section 810 of the National Electrical Code, ANSI/NFPA No.70, provides information with respect to 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.
21. **Lightning** - For added protection of this unit during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the cable system. This will prevent damage to the unit due to lightning and power line surges.

FCC & ICES Information

(U.S.A. and Canadian Models Only)

This device complies with part 15 of the FCC Rules.

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules and ICES-003 of Industry Canada. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and radiates radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his expense.

Intentional or unintentional changes or modifications, not expressly approved by the party responsible for compliance, shall not be made. Any such changes or modifications could void the user's authority to operate the equipment. If necessary, the user should consult the dealer or an experienced radio/television technician for corrective action.

THIS IS A CLASS A PRODUCT. IN A DOMESTIC ENVIRONMENT, THIS PRODUCT MAY CAUSE RADIO INTERFERENCE, IN WHICH CASE, THE USER MAY BE REQUIRED TO TAKE ADEQUATE MEASURES.

The user may find the following booklet, prepared by the Federal Communications Commission, helpful: [How to Identify and Resolve Radio-TV Interference Problems](#). This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

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.



The lightning flash with an arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to presence of important 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.

Sécurité



ATTENTION

RISQUE D'ÉLECTROCUTION. NE PAS OUVRIR !



ATTENTION : POUR ÉVITER TOUT RISQUE D'ÉLECTROCUTION, NE PAS OUVRIR LE BOÎTIER. IL N'Y A PAS DE PIÈCES REMPLAÇABLES À L'INTÉRIEUR. POUR TOUTE INTERVENTION, S'ADRESSER À UN RÉPARATEUR PROFESSIONNEL COMPÉTENT.



L'éclair fléché dans un triangle équilatéral avertit l'utilisateur de la présence d'une « tension dangereuse » non isolée à l'intérieur de l'appareil et d'une valeur suffisante pour constituer un risque d'électrocution.



Le point d'exclamation contenu dans un triangle équilatéral avertit l'utilisateur de la présence, dans la documentation qui accompagne l'appareil, d'importantes consignes d'utilisation et de maintenance.



Attention : L'installation doit être exclusivement effectuée par un technicien spécialisé conformément à la réglementation du code national de l'électricité des États-Unis (NEC) ou à la réglementation locale.



Coupure de l'alimentation. Les appareils avec ou sans commutateur ON-OFF (marche-arrêt) sont alimentés dès que le cordon d'alimentation est branché à la source d'alimentation ; toutefois, les appareils disposant d'un commutateur de marche-arrêt ne fonctionnent que lorsque celui-ci est sur la position ON (marche). Le cordon d'alimentation est l'organe de coupure principal de l'alimentation pour tous les appareils.

Sicherheitshinweise



VORSICHT

ELEKTRISCHE SPANNUNG.
NICHT ÖFFNEN!



VORSICHT: DAS GEHÄUSE ZUR VERMEIDUNG VON ELEKTRISCHEN SCHLÄGEN NICHT ÖFFNEN. DAS GERÄT ENTHÄLT KEINE VOM BENUTZER ZU WARTENDEN TEILE. REPARATUREN NUR VON FACHPERSONAL AUSFÜHREN LASSEN.



Das Blitzsymbol im gleichseitigen Dreieck soll den Benutzer auf nicht isolierte "gefährliche Spannung" im Produkt hinweisen, die ausreichend stark sein kann, um die Gefahr von elektrischen Schlägen für Menschen darzustellen.



Das Ausrufungszeichen im gleichseitigen Dreieck soll den Benutzer auf wichtige Bedienungs- und Wartungsanweisungen in der Dokumentation hinweisen, die dem Gerät beiliegt.



Achtung: Die Installation darf nur von qualifiziertem Wartungspersonal gemäß dem National Electrical Code oder den gültigen örtlichen Vorschriften durchgeführt werden.



Abtrennen der Spannungsversorgung: Die Spannungsversorgung zu Geräten mit und ohne Ein/Aus-Schalter ist hergestellt, wenn das Netzkabel an eine Netzsteckdose angeschlossen ist. Das Gerät ist jedoch nur betriebsbereit, wenn der Ein/Aus-Schalter eingeschaltet ist. Bei allen Geräten erfolgt das Abtrennen der Spannungsversorgung über das Netzkabel.

Precauciones de Seguridad



ATTENZIONE

PERICOLO DI SCOSSA ELETTRICA.
NON APRIRE.



PRECAUCIÓN: PARA REDUCIR EL RIESGO DE DESCARGA ELÉCTRICA, NO ABRA LAS TAPAS. EN EL INTERIOR NO HAY NINGÚN COMPONENTE REPARABLE POR EL USUARIO. LAS REPARACIONES DEBE REALIZARLAS PERSONAL CUALIFICADO.



El símbolo de flecha en forma de rayo situado dentro de un triángulo equilátero pretende alertar al usuario de la presencia de "voltaje peligroso" sin aislamiento dentro de la caja del producto, el cual podría resultar de una magnitud suficiente como para presentar un riesgo de descarga eléctrica para las personas.



El punto de exclamación dentro de un triángulo equilátero pretende alertar al usuario de la existencia de instrucciones de funcionamiento y mantenimiento (reparación) en la documentación suministrada con el aparato.



Atención: La instalación debe realizarla personal cualificado en cumplimiento estricto del código eléctrico nacional (en el caso de los EE.UU.) o de los códigos locales aplicables.



Para Desconectar la Alimentación: Unidades no equipadas con interruptores ON/OFF, son alimentadas cuando el cable de alimentación es conectado a la corriente eléctrica. Las unidades equipadas con interruptores son alimentadas de igual forma, pero adicionalmente requieren que el interruptor esté posicionado en ON. El cable de alimentación es el medio principal de desconexión del equipo.


Veiligheidsmaatregelen




VOORZICHTIG
GEVAAR VOOR ELEKTRISCHE SCHOK.
NIET OPENEN!




GEVAAR: OPEN DEZE BEHUIZING NIET, TENEINDE HET RISICO VAN ELEKTRISCHE SCHOKKEN TE VOORKOMEN. BINNENIN BEVINDEN ZICH GEEN DOOR DE GEBRUIKER TE REPAREREN ONDERDELEN. RAADPLEEG VOOR REPARATIE GEKWALIFICEERD SERVICEPERSONEEL.




Het symbool van een bliksem met pijlpunt in een gelijkzijdige driehoek is bedoeld om de gebruiker te waarschuwen voor de aanwezigheid van een niet geïsoleerde 'gevaarlijke spanning' binnen in de behuizing van het product, die voldoende sterk kan zijn om personen het risico van een elektrische schok te geven.



Het symbool van een uitroepteken in een gelijkzijdige driehoek is bedoeld om de gebruiker te waarschuwen voor de aanwezigheid van belangrijke bedienings- en onderhouds- (service-) instructies in de documentatie die met het product zijn meegeleverd.




Attentie: De installatie dient alleen te worden uitgevoerd door gekwalificeerd servicepersoneel en in overeenstemming met de plaatselijk geldende installatievoorschriften.




Onderbreken van de spanning. Units met of zonder AAN/UIT-schakelaar, staan onder spanning zolang het netsnoer is verbonden met de wandcontactdoos. De unit is echter alleen bedrijfsklaar als de AAN/UIT-schakelaar in de AAN-stand staat. Losnemen van het netsnoer is voor alle units de belangrijkste manier om de spanning te onderbreken.


Sicurezza




ATTENZIONE
PERICOLO DI SCOSSA ELETTRICA.
NON APRIRE.




ATTENZIONE: PER RIDURRE IL PERICOLO DI SCOSSA ELETTRICA, NON APRIRE LE COPERTURE. L'INTERNO NON CONTIENE COMPONENTI CHE L'UTENTE PUÒ RIPARARE PERSONALMENTE. RIVOLGERSI AL PERSONALE DI ASSISTENZA QUALIFICATO PER QUALSIASI INTERVENTO DI RIPARAZIONE..




Il simbolo triangolare di un fulmine con la punta a freccia intende mettere in allerta l'utente riguardo alla presenza di tensioni pericolose non isolate all'interno del guscio dell'unità, che potrebbero essere di intensità sufficiente per costituire pericolo di elettrocuzione.



Il punto esclamativo racchiuso in un triangolo equilatero intende avvisare l'utente in merito alla presenza di importanti istruzioni operative e di manutenzione nella documentazione di accompagnamento all'unità.



Precauzione: affidare l'installazione al solo personale qualificato e nel rispetto del Codice elettrico nazionale (USA) o dei codici locali pertinenti.



Scollegamento dell'alimentazione. Gli apparecchi con o senza commutatori ON-OFF ricevono corrente tutte le volte che il cavo di alimentazione è inserito nella presa di forza; tuttavia, gli apparecchi muniti di commutatore ON-OFF funzionano solo se quest'ultimo è in posizione ON. Il cavo di alimentazione serve a scollegare dalla corrente tutti gli apparecchi.


Medidas de Segurança




CUIDADO
RISCO DE CHOQUE ELÉCTRICO.
NÃO ABRIR!




CUIDADO: PARA REDUZIR O RISCO DE CHOQUE ELÉCTRICO, NÃO ABRA AS TAMPAS. O INTERIOR NÃO CONTÉM PEÇAS QUE NECESSITEM DE MANUTENÇÃO. A MANUTENÇÃO DEVE SER EFECTUADA POR PESSOAL DE ASSISTÊNCIA TÉCNICA QUALIFICADO.




O símbolo do raio com a cabeça de uma seta dentro de um triângulo equilátero serve para alertar o utilizar para a presença de "corrente eléctrica perigosa" não isolada no interior da caixa do produto que pode ser suficiente para dar origem a choques eléctricos.



O ponto de exclamação dentro de um triângulo equilátero serve para alertar o utilizador para a presença de instruções de funcionamento e manutenção importantes na documentação fornecida com o aparelho.



Atenção: A instalação deve ser efectuada por pessoal de assistência técnica qualificado, de acordo com o National Electrical Code (Normas de Electricidade Nacionais) ou a legislação local aplicável.



Desconexão da electricidade. Unidades com ou sem interruptores ON-OFF são activadas sempre que o cabo eléctrico for ligado a uma fonte de alimentação. No entanto, a unidade fica operacional apenas quando o interruptor ON-OFF se encontrar na posição ON. Para desligar a electricidade em qualquer uma das unidades deve ser utilizado o cabo eléctrico.


Zasady Bezpieczeństwa




UWAGA
NIEBEZPIECZEŃSTWO PORĄŻENIA PRĄDEM
ELEKTRYCZNYM. NIE OTWIERAĆ!




UWAGA: ZE WZGLĘDU NA NIEBEZPIECZEŃSTWO PORĄŻENIA PRĄDEM NIE WOLNO OTWIERAĆ POKRYWY. W ŚRODKU NIE MA ŻADNYCH ELEMENTÓW, KTÓRE MOGĄ BYĆ NAPRAWIANE PRZEZ UŻYTKOWNIKA. NAPRAWĘ NALEŻY POWIERZYĆ AUTORYZOWANEMU PUNKTOWI SERWISOWEMU.




Błyskawica ze strzałką wewnątrz trójkąta równobocznego ma za zadanie zwrócić uwagę użytkownika na obecność nieizolowanego "niebezpiecznego napięcia" wewnątrz obudowy urządzenia, o wielkości stwarzającej niebezpieczeństwo porażenia prądem.



Wykrzyknik wewnątrz trójkąta równobocznego ma za zadanie zwrócić uwagę użytkownika na ważne czynności, związane z obsługą i konserwacją urządzenia, zamieszczone w Instrukcji obsługi.



Uwaga: Instalację urządzenia powinien wykonać tylko wykwalifikowany personel, zgodnie z przepisami NEC lub odpowiednimi przepisami miejscowymi.



Odłączanie zasilania. Urządzenia zarówno nie posiadające, jak i posiadające wyłączniki ON-OFF znajdują się pod napięciem, jeżeli tylko przewód zasilający jest połączony ze źródłem zasilania. Jednakże urządzenie działa tylko wtedy, gdy wyłącznik znajduje się w położeniu ON. Przewód zasilający jest głównym odłącznikiem zasilania dla wszystkich rodzajów urządzeń.

Table of Contents

Important Safeguards	2
FCC Information	2
1 UNPACKING	9
2 SERVICE	9
3 DESCRIPTION	9
3.1 Power	9
4 INSTALLATION	10
4.1 General	10
4.2 Installation using Biphase Code	10
4.3 Installation using RS-232 Data Direct to Camera Site	11
4.4 Installation using an RS-232 Data Transmission Link to a Biphase Camera Site	12
4.5 AutoDome Camera or Receiver/Driver Site Configuration	13
5 SETTING FAST ADDRESS FEATURE	13
6 CONTROLLER OPERATION	14
6.1 Controls/Indicators	14
7 TECHNICAL REFERENCE	16
8 DATA CONVERTER PINOUTS	19

1 UNPACKING

This electronic equipment should be unpacked and handled carefully.

Check for the following items:

- LTC 5136/61 or LTC 5136/51 Desktop Controller.
- Interface unit.
- Power supply.
- Power supply cable.
- One (1) 3 m (10 ft) cable with two (2) RJ-11 connectors.

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 SERVICE

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

Service Centers

U.S.A.: Phone: 800-366-2283 or 408-956-3895
 fax: 800-366-1329 or 408-956-3896
 e-mail: NationalServiceCenter@ca.slr.com

Canada: 514-738-2434

Europe, Middle East & Asia Pacific Region:
 32-1-440-0711

For additional information,
 see www.boschsecuritysystems.com.

NOTE: Grounded wrist straps must be worn and proper ESD safety precautions observed when handling the electrostatic-sensitive printed circuit boards.

3 DESCRIPTION

The LTC 5136 Series Controllers are designed for use with the Bosch AutoDome Series cameras. They can also be used to operate any of the conventional Allegiant® Series of Receiver/Drivers.

The LTC 5136 Series controllers support control of all AutoDome and Allegiant receiver/driver functions including variable speed pan/tilt/zoom, pre-positions, auxiliaries, etc. Typically, one of the 16 outputs of the LTC 5136 junction box is connected to a single AutoDome camera or receiver/driver. If the application will use a *daisy chain* wiring configuration, up to eight (8) camera sites can be controlled from each of the 16 biphas outputs.

The biphas control code cable can extend a maximum distance of 1.5 km (5000 ft), using 1.0 mm² (18 AWG) shielded twisted pair cable (Belden 8760 or equivalent).

3.1 Power

The model number and operating voltage are shown on the product label.

Model No.	Rated Voltage	Voltage Range	Power at Rated Voltage
LTC 5136/51	230 VAC, 50/60 Hz	195.5 to 253	6 W
LTC 5136/61	120 VAC, 50/60 Hz	105 to 132	6 W

4 INSTALLATION

4.1 General

The desktop Controller unit should be installed in a location convenient to the operator. The Controller contains a single RJ-11 connector, which is used for both power and data connections. In most applications, the supplied 3 m (10 ft) power/data cable is connected directly to the supplied interface unit. The interface unit converts the RS-232 data generated by the Controller unit into Allegiant biphasic control code. The interface unit also provides a path to connect power to the Controller unit.

An LED visible on the top cover of the interface unit will flash to indicate that the RS-232 data coming from the Controller has successfully been converted into biphasic control code.

There are no video connections to the Controller. The video signal(s) from the camera site(s) should be connected to an appropriate viewing monitor, or other video processing equipment (switcher, multiplexer, etc.).

If the application will utilize an RS-232 data communication link, or will be connected directly to RS-232 Series AutoDome cameras or RS-232 Allegiant Receiver/Driver units, the installation is done without using the supplied interface unit. For RS-232 applications, an LTC 8557 Series Remote Keyboard Hookup Kit should be purchased to simplify the installation process. One of the junction boxes supplied with the LTC 8557 Series Kit can then be used to connect the RS-232 wires TX and GND from the Controller's output to the user-supplied RS-232 communication link. The RS-232 protocol requires a simplex link operating at 9600 baud.

Three installation sections are detailed below; select the type of application you will be using.

This document also includes various diagrams of typical applications, that will be helpful to refer to during installation.

4.2 Installation Using Biphasic Code

(See Figures 3 and 4)

Install the supplied interface unit in a location close enough to the Controller unit so the that supplied 3 m (10 ft) data cable can be used. Note that the interface unit is rated for indoor use only. If desired, four holes are provided for mounting the interface unit to a flat surface. The power supply (to power the Controller and interface unit) should also be located in a convenient location near the interface unit. Connect the bayonet style connector of the power supply cable into the jack located on the side of the interface unit. If the power supply cable must be attached to the power supply, the polarity is not important; the Interface Unit is not polarity sensitive. Plug the power supply into a suitable AC power source.

Connect the supplied 3 m (10 ft) data cable with two RJ-11 connectors, between the Controller unit and the interface unit. The orientation is not important -- either end may be connected to either device.

The next step is to connect the biphasic control code outputs of the interface unit to the data cables. Typically, a single camera site receiver/driver can be connected to each output, but the outputs of the interface unit are rated to handle up to eight (8) receiver/drivers when connected in a *daisy chain* configuration, to a maximum of 1.5 km (5000 ft). In a *daisy chain* connection, the cable is looped through each AutoDome camera or receiver/driver along the way. The last (and **only** the last) unit in the *daisy chain* connection should be terminated. All other receiver/drivers should have the terminating resistor removed when the looping cable is connected.

Connect shielded twisted pair cable (Belden 8760 or equivalent) between the camera site receiver/driver location and the biphasic output connections located on the interface unit.

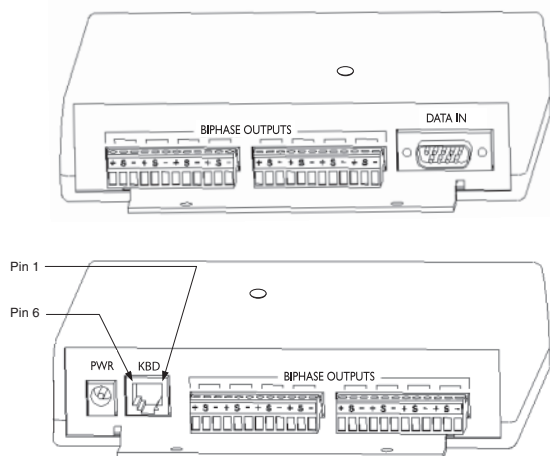


Figure 1 Interface Unit Supplied with LTC 5136

The removable terminal blocks have three connections: (+), (-), and (S [Shield]), as shown in the diagram above.

Select and maintain a wire color convention to avoid confusion at the camera site(s).

EXAMPLE: White to (+), Black to (-), and Shield to (S).

NOTE: The shield terminals (S) of the interface unit are connected to the shield wire of the cable. Skip to *AutoDome Camera or Receiver/Driver Site Configuration* to complete the installation.

4.3 Installation Using RS-232 Data

Direct to Camera Site (See Figure 5)

In this application, the RS-232 data that is generated by the Controller is connected directly to RS-232 Series AutoDome cameras or RS-232 Allegiant Receiver/Driver units. The supplied interface unit is not used in this application. The AutoDome camera or receiver/driver must be set (via internal DIP switch or on-screen menu) for 9600 baud operation.

Install one of the junction boxes supplied in the LTC 8557 Series Kit (ordered separately) in a location close enough to the Controller unit so that the supplied 3 m (10 ft) data cable can be used. If desired, four holes are provided for mounting the LTC 8557 Series junction box to a flat surface. The power supply (to power the Controller) should also be located near the LTC 8557 Series junction box. Connect the bayonet style connector of the power supply cable into the jack located on the side of the junction box. If the power supply cable must be attached to the power supply, the polarity is not important; the Interface Unit is not

polarity sensitive. Plug the power supply into a suitable AC power source.

Connect the supplied 3 m (10 ft) data cable with two RJ-11 connectors, between the Controller unit and the junction box. The orientation is not important -- either end may be connected to either device.

Connect an appropriate length of cable (not supplied), suitable for use with RS-232 signals, between the LTC 8557 Series junction box, and the camera site receiver/driver location. If the distance between the box and camera site is much over 20-30 m (60-90 ft), the use of user-supplied short haul modems or other RS-232 line extender devices may be required. These devices must be able to support an RS-232 simplex transmission rate of 9600 baud.

The LTC 8557 Series junction box provides a removable screw terminal block for the data connections. The terminal block has four connections, marked 1, 2, 3, & 4, as shown in the junction box diagram.

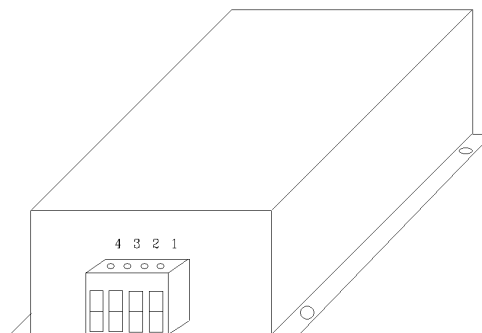


Figure 2 Junction Box Supplied with LTC 8557 Series Kit

Pins 1 and 2 are not used. Pin 3 is the Controller's RS-232 TX output, and Pin 4 is the Signal Ground connection. Connect the wire from terminal 3 to the RX connection of the AutoDome camera or receiver/driver. Respectively, connect the wire from terminal 4 to the data ground connection.

Only a single camera site can be connected in this manner – RS-232 signals cannot be wired using a *daisy chain* connection. Be sure to use cable suitable for RS-232 signals.

Skip to *AutoDome Camera or Receiver/Driver Site Configuration* to complete the installation.

4.4 Installation Using an RS-232 Data Transmission Link to a Biphase Camera Site (See Figure 6)

In this application, the RS-232 data that is generated by the Controller is connected directly to an RS-232 transmission link (fiber optics, microwave, dial-up phone modems, etc.). The RS-232 transmission link must be able to support an RS-232 simplex transmission rate of 9600 baud. At the other end of the RS-232 transmission link, the RS-232 signal is converted into Allegiant biphase protocol, using the supplied interface unit. The biphase data is then connected to the AutoDome cameras or Allegiant receiver/driver units.

Install one of the junction boxes supplied in the LTC 8557 Series Kit (ordered separately) in a location close enough to the Controller unit so that the supplied 3 m (10 ft) data cable can be used. If desired, four holes are provided for mounting the LTC 8557 Series junction box to a flat surface. The power supply (to power the Controller) should also be located near the LTC 8557 Series junction box. Connect the bayonet style connector of the power supply cable into the jack located on the side of the junction box. If the power supply cable must be attached to the power supply, the polarity is not important; the Interface Unit is not polarity sensitive. Plug the power supply into a suitable AC power source.

Connect the supplied 3 m (10 ft) data cable with two RJ-11 connectors, between the Controller unit and the junction box. The orientation is not important -- either end may be connected to either device.

Connect an appropriate length of cable (not supplied) suitable for use with RS-232 signals, between the LTC 8557 Series junction box and the RS-232 transmission device. If the distance between the box and device is much over 20-30 m (60-90 ft), the use of user-supplied short haul modems or other RS-232 line extender devices may be required. These devices must be able to support an RS-232 simplex transmission rate of 9600 baud.

The LTC 8557 Series junction box provides a removable screw terminal block for the data connections. The terminal block has four connections marked 1, 2, 3, & 4. See Figure 2, Junction Box Supplied with LTC 8557 Series Kit.

Pins 1 and 2 are not used. Pin 3 is the Controller's RS-232 TX output, and Pin 4 is the Signal Ground connection. Be sure to use cable suitable for RS-232

signals. Connect the wire from terminal 3 to the RX connection of the RS-232 transmission device. Respectively, connect the wire from terminal 4 to the data ground connection.

At the camera side of the RS-232 transmission device, install the interface unit in a convenient location where it can easily be connected to the transmission device.

NOTE: The interface unit is rated for indoor use only. If desired, use the four holes provided to mount the box to a flat surface.

Connect the bayonet style connector of the power supply cable into the jack located on the side of the interface unit. If the power supply cable must be attached to the power supply, the polarity is not important; the Interface Unit is not polarity sensitive. Plug the power supply into a suitable AC power source.

Connect a transmit wire and a signal ground wire from the RS-232 transmission device to the desired input on the interface unit. Either the RJ-11 or the 9-pin D type connector input may be used. Refer to the *Data Converter Pinouts* section for the appropriate pin connections.

Next, connect the biphase control code outputs of the interface unit to the data cable. Typically, a single camera site receiver/driver is connected to a single output, but each biphase output of the interface unit is rated to handle up to eight (8) receiver/drivers when connected in a *daisy chain* configuration, to a maximum of 1.5 km (5000 ft). For a *daisy chain* connection, the cable is looped through each AutoDome camera or receiver/driver along the way. The last (and **only** the last) unit in the *daisy chain* connection should be terminated. All other receiver/drivers should have the terminating resistor removed when the looping cable is connected.

Connect shielded twisted pair cable (Belden 8760 or equivalent) between the camera site receiver/driver and the biphase output connections located on the interface unit. The removable terminal blocks have three connections: (+), (-), and (S [Shield]). See FIGURE 1, Interface Unit Supplied with LTC 5136.

Select and maintain a wire color convention to avoid confusion at the camera site(s).

Example: White to (+), Black to (-), and Shield to (S).

NOTE: The shield terminals of the interface unit are connected to the Shield wire of the cable.

4.5 AutoDome Camera or Receiver/Driver Site Configuration

Follow the standard installation instructions provided with the AutoDome Camera or Allegiant Series Receiver/Driver unit to connect the data cable to the unit. Set the address of the AutoDome camera or receiver/driver, to the camera number that will be selected on the Controller keypad. AutoDome cameras also support address setting via the on-screen menu *Fast Address* feature. The next section outlines setting of the AutoDome's *Fast Address*.

Video signals from the camera site are NOT connected to the Controller. The video signal(s) from the camera site(s) should be connected to an appropriate viewing monitor or other video processing equipment (switcher, multiplexer, etc.).

5 SETTING FAST ADDRESS FEATURE

Use the AutoDome's *Fast Address* feature to set the AutoDome address via the controller and on-screen menus instead of using the switch address (thumbwheel). *Fast Address* can also be used to change addresses, even if the thumbwheel switch is set.

The following is an example of how to *Fast Address* an AutoDome (ID number 26636, logical camera #3). The AutoDome being *Fast Addressed* has the switch address (thumbwheel) set to 0.

1. Call up the camera to the screen you are viewing (i.e. **CAMERA-3-ENTER**).
2. Press **ON-999-ENTER**. The screen shown in FIGURE FA1 is displayed.
 - Any camera without a *Fast Address* will display the screen in FIGURE FA1 when the **ON-999-ENTER** is used. Make sure you are viewing the camera that you want to program.
 - If the camera's *Fast Address* is the same as the keyboard address, **ON-999-ENTER** will make the camera enter the *Fast Address* mode. This is required to change or disable a *Fast Address*.

- **ON-998-ENTER** causes all cameras, regardless of *Fast address* status, to enter the addressing mode.

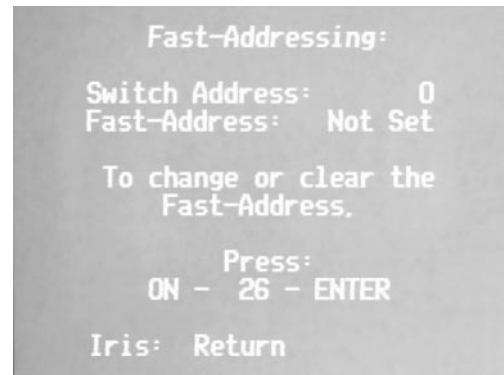


Figure FA1

3. Press **ON-26-ENTER**. The screen shown in FIGURE FA2 will be displayed. At this point, any camera whose ID does not begin with 26 will exit the *Fast Addressing* mode.

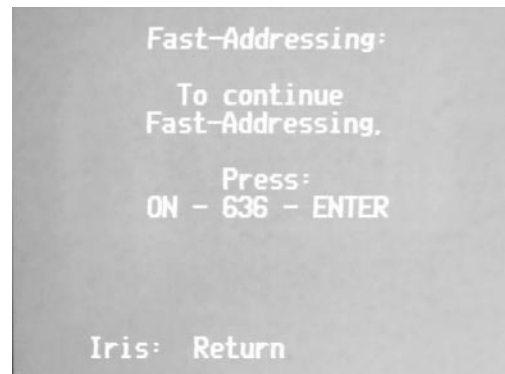


Figure FA2

4. Press **ON-636-ENTER**. The screen shown in FIGURE FA3 is displayed. At this point, Camera ID 26636 will be the only camera in the *Fast Addressing* mode.

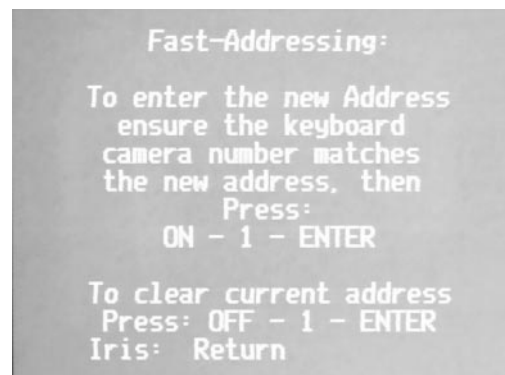


Figure FA3

5. Press **ON-1-ENTER** and the address is set. Once the *Fast Address* is set, the switch address (thumbwheel) is ignored. The *Fast Address* is stored to non-volatile memory, and will not change if power is removed or factory defaults are restored (**SET-899-ENTER**).

- To reset the dome's address to the switch address (thumbwheel), repeat the above steps and end by pressing **OFF-1-ENTER**.
- To check/confirm the address, call up the camera and press **ON-997-ENTER**. This command causes all cameras to briefly display their addresses.

6 CONTROLLER OPERATION

Operation is quite simple. If the camera number to be controlled is not visible in the LED displays, use the numeric keypad to select the desired camera, then press **ENTER**. The camera can now be operated using the appropriate joystick and/or lens controls. If appropriate, pre-position scenes and auxiliary functions can also be entered.

Note that a delay of more than 3-4 seconds while entering a selection results in the Controller returning to the default camera entry mode. If this condition occurs, start the selection again, from the beginning.

A complete description of the controls and indicators is provided in the next section.

6.1 Controls/Indicators

LED Indicators: The four digit, 7-segment LED display is used to display data entry and the selected camera number.

SET key: This key is used to set pre-position scenes of all AutoDome cameras and Allegiant Series Receiver/Drivers which are equipped with this option. Operate the joystick and lens controls to position the camera to the desired scene to be programmed. Press **SET**, then enter the desired pre-position number on the numeric keypad (1 to 99). Press **ENTER** to store the position.

Certain pre-position numbers are also used to program certain AutoDome features. Refer to the AutoDome operation manual for a complete listing of the available features.

USER key: Press **USER-1-ENTER** to enter the Controller diagnostic mode. This function can be used

to ensure that all Controller LEDs and buttons are in working order. It also automatically calibrates the center position of the analog joystick. Upon entering this mode, the Controller sounds a short beep. The display readouts and LEDs behind the first two rows of buttons also illuminate for about two seconds. During this time, the joystick undergoes calibration, so be careful not to move it until the LED displays have gone dark. The operator should note any LED display failures during the time they are illuminated.

Each key may now be pressed to display a unique code number associated with that key. Use the table below to ensure that all keys are operating properly. Push the **USER** key last, as this will cause the Controller to exit the test mode.

Key	Number	Key	Number
Set	0009	9	0029
Camera	0025	0	0014
Shot	0010	Enter	0030
On	0018	Clear	0038
Off	0026	Focus (up)	0043
1	0011	Focus (down)	0044
2	0019	Iris (up)	0045
3	0027	Iris (down)	0046
4	0012	Up	1x53
5	0020	Down	0x51
6	0028	Left	1x52
7	0013	Right	0x54
8	0021	Zoom (CW)	1x41
		Zoom (CCW)	0x42

NOTE: The **x** digit shown in the number column, for up, down, left, right, and zoom values, indicates a *speed* value, and will change based on how far the control is activated.

CAMERA key: This key is only used to correct an error when selecting a camera number. If another key is inadvertently pressed when a camera selection is being made, the **Camera** button may be pressed to put the Controller immediately back into camera selection mode. Normally, a camera selection is made by entering the desired camera number using the numeric keypad, then pressing **ENTER**.

SHOT key: This key is used to recall pre-position scenes of all AutoDome cameras and Allegiant Series Receiver/Drivers that are equipped with this option. Press **SHOT**, then enter the desired pre-position number on the numeric keypad (1 to 99). Press **ENTER** to recall a previously stored camera position.

Certain pre-position numbers are also used to program certain AutoDome features. Refer to the AutoDome operation manual for a complete listing of the available features.

ON key: This key is used to activate auxiliary functions of the AutoDome cameras and Allegiant Series receiver/drivers. Press **ON**, then enter the desired auxiliary number on the numeric keypad, and press **ENTER** to complete the action.

Certain auxiliary numbers are also used to program certain AutoDome features. Refer to the AutoDome operation manual for a complete listing of the available features.

OFF key: This key is used to deactivate auxiliary functions of the AutoDome cameras and Allegiant Series Receiver/Drivers. Press **OFF**, then enter the desired auxiliary number on the numeric keypad, and press **ENTER** to complete the action.

Certain auxiliary numbers are also used to program certain AutoDome features. Refer to the AutoDome operation manual for a complete listing of the available features.

NUMERIC keypad: These keys are used to enter numeric data. When the first numeric key is pressed, the LED display will become a data display and indicate the numeric value pressed.

ENTER key: This key is used to terminate commands. When using the **ON** or **OFF** function, holding this key will cause the function to repeat until the key is released. This feature is useful where auxiliary functions are associated with level type camera adjustments.

CLEAR key: This key is used to clear invalid entries. In some cases, it can be pressed twice. If there is numeric data in the camera display, the first push clears this data, and the second push returns the Controller to the camera mode. This allows the operator to clear incorrect data without leaving the current mode. If there is no data in the LED display, the first push clears the entire Controller, back to the default state.

FOCUS and IRIS keys: These rocker switches are used to control the lens focus and iris functions.

Joystick: Movement of the joystick left or right will pan the selected camera left or right. Movement of the joystick up or down will tilt the camera up or down. Rotation of the joystick knob will move the zoom lens in or out.

If the camera is capable of variable speed operations, the degree of joystick deflection (or rotation) will correspond to different speed responses.

7 TECHNICAL REFERENCE

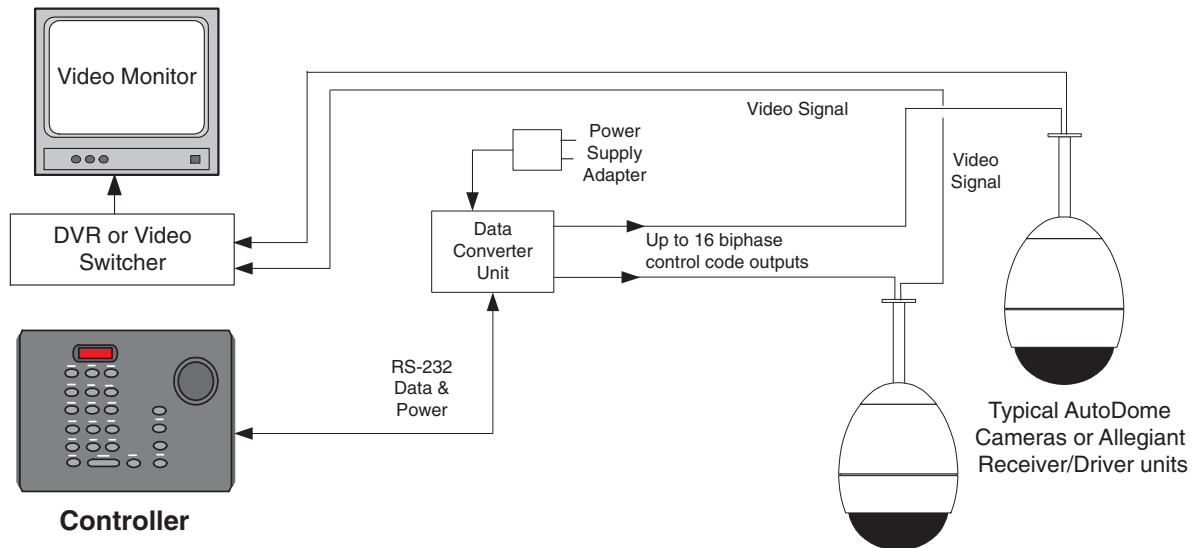


Figure 3 Typical Camera Site Using Biphase Control Code

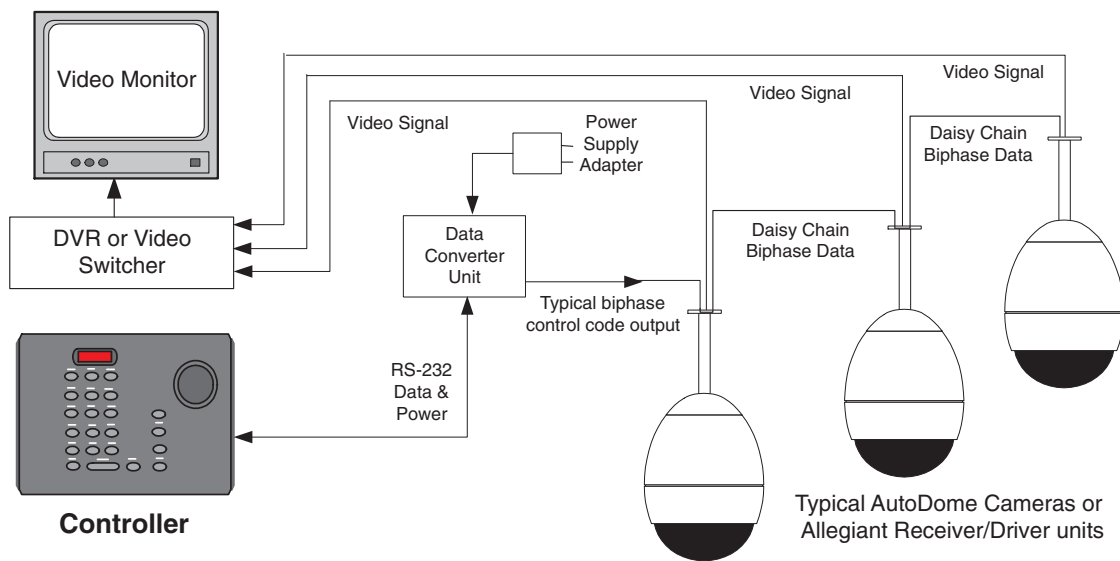


Figure 4 Typical Multiple Camera Sites Using Daisy Chain Biphase Control Code Wiring Configuration

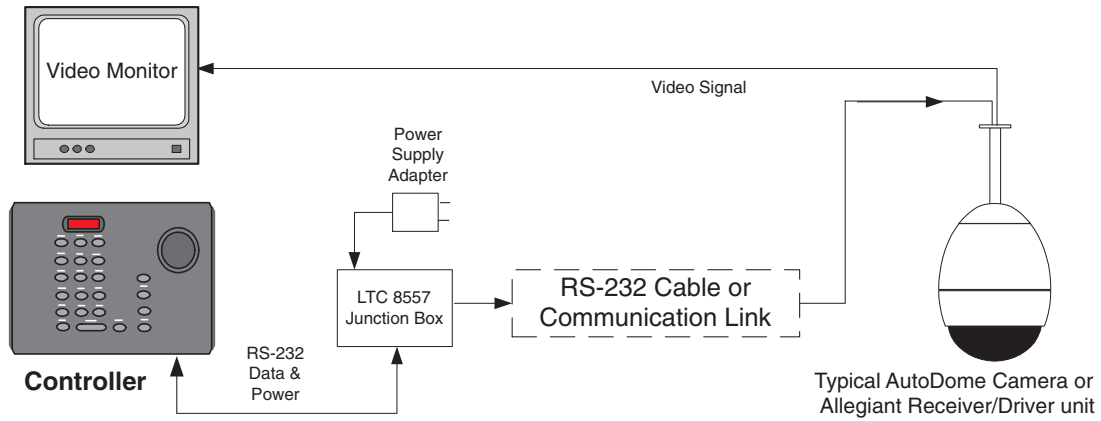


Figure 5 Typical Installation Using RS-232 Model Camera Site

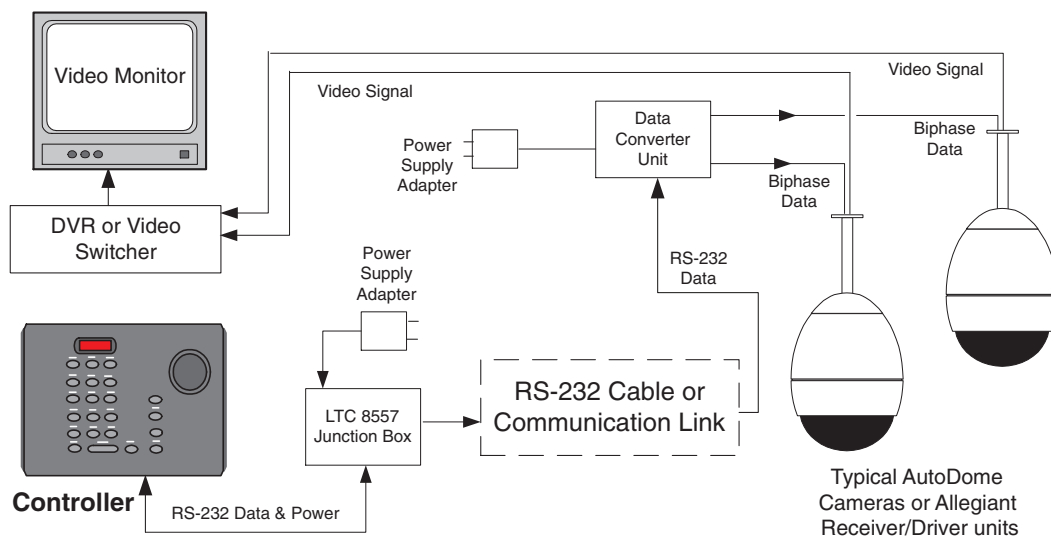


Figure 6 Typical Installation Using RS-232 Communication Link to Biphase Camera Site

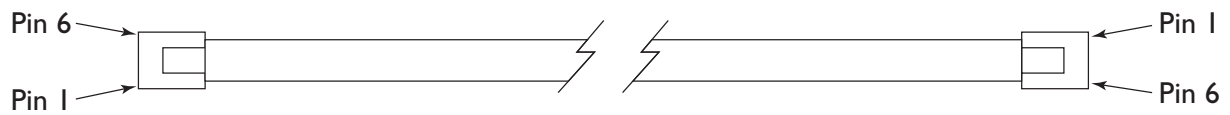


Figure 7 Supplied 6-Conductor 3 m (10 ft) Data Cable Detail

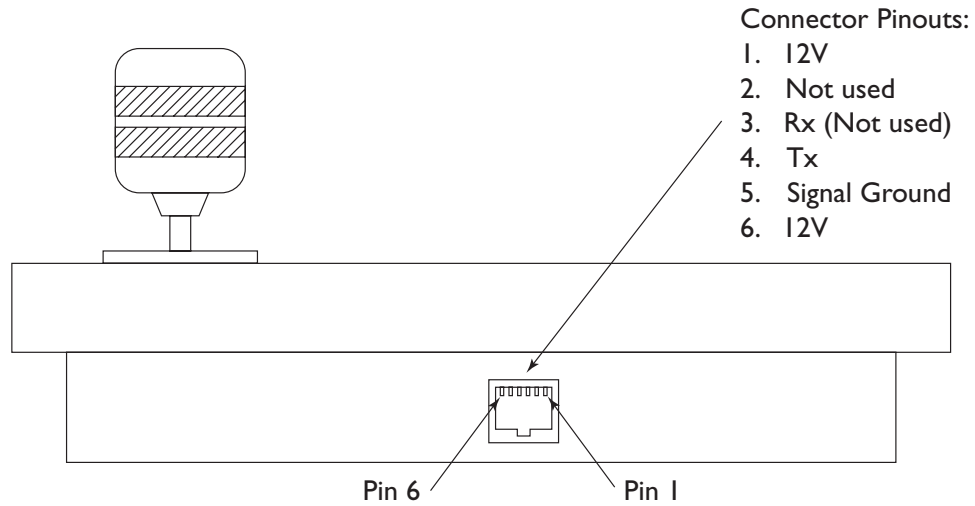


Figure 8 Rear Panel Controller Connector Detail

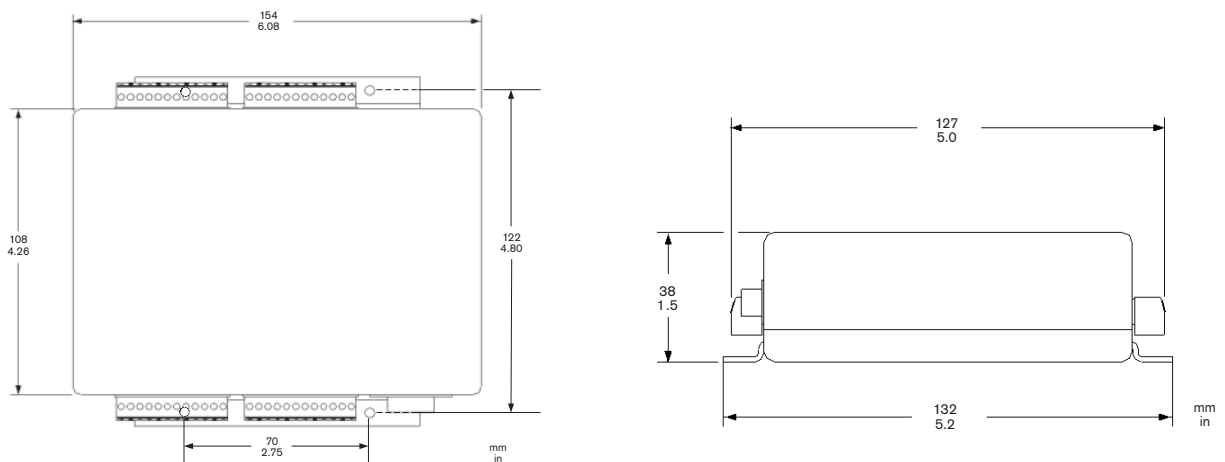


Figure 9 Mounting Dimensions of Supplied Interface Box

8 DATA CONVERTER PINOUTS

Data In - 9-Pin Connector (Male)

Pin	Connection
1	No Connection
2	Rx
3	No Connection
4	No Connection
5	Ground
6	No Connection
7	No Connection
8	No Connection
9	No Connection

KBD - RJ-11 Designations (If Used)

Pin	Connection
1	Output Voltage
2	Signal Ground
3	Rx
4	Ground
5	No Connection
6	Output Voltage

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