



July 26, 2018

INVITATION TO TENDER "ITT" PS20181003  
BLOEDEL CONSERVATORY LIGHTING RETROFIT

ADDENDUM NO. 1

RE: SUPPLEMENTAL INFORMATION - INSTALLATION MANUALS FOR THE LED COLOR CHANGING LUMINAIRE AND DATA DEVISE.

*PLEASE ADD:*

The following information is attached to this Addendum:

- a) Philips Color Blast Installation Instructions
- b) Philips Date Enabler Pro

This addendum must be completed, and attached to your Tender form.

If you have already submitted your Tender, this addendum shall be submitted to the Supply Chain Management Office, 4<sup>th</sup> Floor, City of Vancouver, 453 West 12<sup>th</sup> Avenue, Vancouver, British Columbia, Canada, V5Y 1V4, and must be received in the drop box at the Supply Chain Management office prior to the Closing Time in an envelope clearly marked "Addendum No. 1 to Invitation to Tender No. PS20181003 - Bloedel Conservatory Lighting Retrofit".

\_\_\_\_\_  
NAME OF VENDOR

\_\_\_\_\_  
SIGNATURE OF AUTHORIZED SIGNATORY

\_\_\_\_\_  
DATE

Contracting Specialist: Eamonn Savage




ColorBlast IntelliHue Powercore gen4  
 ColorBlast Powercore gen4, RGBA  
 ColorBlast Powercore gen4, RGBW  
 ColorBlast Powercore gen4, RGB



# Installation Instructions

Instructions d'installation    Installationsanweisungen  
 Instrucciones de instalación    Istruzioni per l'installazione  
 Installatie-instructies    インストール手順    安装指示

**⚠** Must be installed by a qualified electrician in accordance with all national and local electrical and construction codes and regulations.

Doit être installé par un électricien qualifié conformément aux codes et réglementations électriques nationaux et locaux du bâtiment.

La instalación debe realizarla un electricista calificado siguiendo todos los códigos y normativas eléctricas y de construcción, tanto nacionales como locales.

Devono essere installati da un elettricista qualificato in conformità con le norme locali e nazionali vigenti in materia di costruzioni edilizie e installazione di impianti elettrici.

Moet door een gekwalificeerd elektricien overeenkomstig alle nationale en lokale elektrische verordeningen worden geïnstalleerd.

Muss von einem geprüften Elektriker in Übereinstimmung mit allen nationalen und örtlichen elektrischen Codes und Regelungen installiert werden.

国または地域の建築コードおよび規制にすべて従い、資格のある電気技師が設置してください。

必須根据所有国家和地方的电气和施工准则及规范，由符合资格的电工进行安装。

**⚠** Before installing this product, please visit the product page at [www.colorkinetics.com](http://www.colorkinetics.com) for the latest version of the installation instructions. Due to continuous improvements and innovations, installation instructions may change without notice.

Avant de procéder à l'installation de ce produit, veuillez consulter la page Web du produit à l'adresse [www.colorkinetics.com](http://www.colorkinetics.com) pour obtenir les instructions de montage les plus récentes. En raison des améliorations et innovations sans cesse entreprises, les instructions de montage peuvent être modifiées sans préavis.

Antes de instalar este producto, visite la página del producto en [www.colorkinetics.com](http://www.colorkinetics.com) para consultar la última versión de las instrucciones de instalación. Debido a las continuas mejoras e innovaciones, las instrucciones de instalación pueden cambiar sin previo aviso.

Prima di installare il prodotto, visitare la pagina relativa all'indirizzo [www.colorkinetics.com](http://www.colorkinetics.com) per la versione più recente delle istruzioni d'installazione. Grazie ai miglioramenti e alle innovazioni continue, le istruzioni sono soggette a modifiche senza preavviso.

Ga voordat u dit product installeert, eerst naar de productpagina op [www.colorkinetics.com](http://www.colorkinetics.com) voor de meeste recente versie van de installatie-instructies. Vanwege voortdurende verbeteringen en innovaties kunnen de installatie-instructies zonder bericht gewijzigd worden.

Besuchen Sie vor der Installation des Produkts bitte die Produktseite unter [www.colorkinetics.com](http://www.colorkinetics.com), um die aktuellen Installationsanweisungen herunterzuladen. Aufgrund kontinuierlicher Verbesserungen und Innovationen können die Installationsanweisungen ohne Vorankündigung geändert werden.

この製品を設置する前に、[www.colorkinetics.com](http://www.colorkinetics.com) の製品ページにアクセスして、最新の設置手順を確認してください。改善・改良を継続的に行っているため、取り付け手順が予告なく変更されることがあります。

安装该产品之前，请先访问产品页面 [www.colorkinetics.com](http://www.colorkinetics.com) 以获取最新版的安装说明。由于在不断地改进和创新，安装说明可能会有所改动，恕不另行通知。

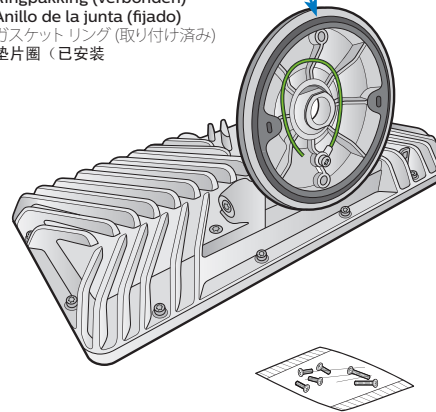


## 1 Confirm all components received

Confirmez la réception de l'intégralité des composants  
 Bestätigen Sie, dass Sie alle Bestandteile erhalten haben  
 Compruebe si ha recibido todos los componentes  
 Confermare tutti i componenti ricevuti  
 Controleer alle ontvangen componenten  
 すべてのコンポーネントが揃っていることを確認します。  
 确认收到了所有部件



\* Gasket ring (attached)  
 Anneau d'étanchéité (fixé)  
 Anello di guarnizione (inserito)  
 Dichtungsring (angebracht)  
 Ringpakking (verbonden)  
 Anillo de la junta (fijado)  
 ガスケットリング (取り付け済み)  
 垫片圈 (已安装)



## 2 Verify electrical plan

Vérifiez le schéma électrique Den Schaltplan prüfen Verifique el plan eléctrico  
 Verificare lo schema elettrico Check aanwezigheid van de installatieplattegrond 電気配線を確認します 验证电路图

\* Configuration Calculator: [www.colorkinetics.com/support/install\\_tool](http://www.colorkinetics.com/support/install_tool)

Calculates the number of fixtures each circuit can support based on: model of fixture, line voltage, circuit load, and cable lengths.

Calcule le nombre d'appareils que chaque circuit peut prendre en charge en fonction des éléments suivants : modèle de l'appareil, tension secteur, charge d'une ligne et longueurs des câbles.

Berechnet die Anzahl der Beleuchtungseinheiten, die jede Schaltung unterstützen kann, auf Basis von: Modell der Beleuchtungseinheit, Spannung, Belastung der Schaltung, Kabellängen.

Calcular la cantidad de apliques que cada circuito puede admitir según: el modelo de aplique, la tensión de línea, la carga del circuito y las longitudes de cable.

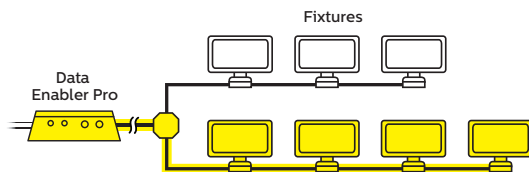
Calcolare il numero di gruppi di illuminazione che possono essere supportati da ogni circuito sulla base dei seguenti parametri: modello del gruppo di illuminazione, voltaggio della linea, carico del circuito e lunghezza dei cavi

Bereken het aantal bevestigingen dat ieder circuit kan ondersteunen gebaseerd op: bevestigingsmodel, lijnspanning, circuitlading en kabellengtes.

各回線でサポートできる器具数を器具のモデル、線間電圧、回線負荷、およびケーブル長に基づいて算出します  
 计算每个电路上可安装的灯具数量，计算依据是：灯具型号、线路电压、电路负荷和电线长度。

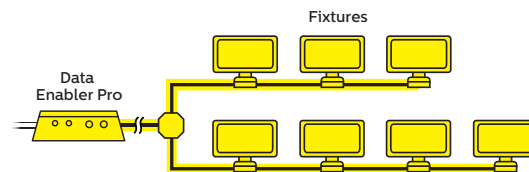
### Precision Dimming Fixtures Only

Lampes de précision de gradation seulement Sólo lámparas de regulación de luz de precisión  
 solo l'illuminazione d'attenuazione di precisione Alleen precisie dimmen armaturen  
 Präzision dimmen armaturen nur 精密調光フィクスチャのみ 只有精准的调光灯具



53.3 m (175 ft) maximum individual length

Longueur individuelle de 53,3 m maximum  
 53,3 m maximale Einzellänge  
 Longitud máxima individual 53,3 m  
 Lunghezza singola massima di 53,3 m  
 Tot een maximale lengte van 53,3 m per onderdeel  
 個々の長さは最大 53,3 m  
 53,3 m 最大单线长度



122 m (400 ft) maximum total length

Longueur totale de 122 m maximum  
 122 m maximale Gesamtlänge  
 Longitud máxima total de 122 m  
 Lunghezza totale massima di 122 m  
 122 m totale lengte  
 合計の長さは最大 122 m  
 122 m 最大总长度

### 3 Precision Dimming Fixtures Only - Record location and serial number of each fixture for addressing

Lampes de précision de gradation seulement - Enregistrez l'emplacement et le numéro de série de chaque appareil pour l'adressage

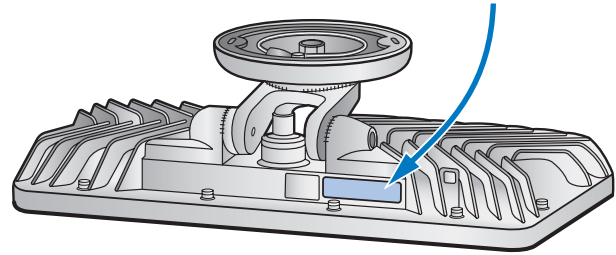
Sólo lámparas de regulación de luz de precisión - Anote la posición y el número de serie de cada lámparas para su programación

solo l'illuminazione d'attenuazione di precisione - Registrare la posizione e il numero seriale di ogni gruppo di illuminazione per la localizzazione

Alleen precisie dimmen armaturen - Noteer plaats en serienummer van elk onderdeel, dit ten behoeve van installatie

Präzision dimmen armaturen nur - Ort und Seriennummer jedes Beleuchtungskörpers zur Adressierung notieren

精密調光フィクスチャのみ - 各フィクスチャの場所とシリアル番号を書き留めます  
只有精准的调光灯具 - 记下各灯具的位置和序列号, 以便查询



### 4 Make sure power is OFF

Assurez-vous que l'alimentation est coupée    Vergewissern Sie sich, dass die Stromzufuhr **ABGESCHALTET** ist  
Asegúrese de que la alimentación eléctrica esté desconectada    Assicurarsi che l'alimentazione sia disattivata  
Zorg dat de voeding is uitgeschakeld    電源が OFF であることを確認します    确保电源关闭

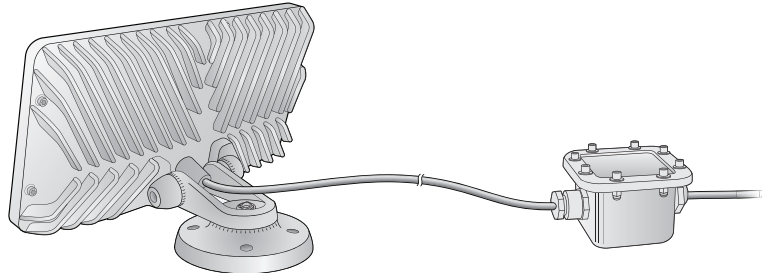
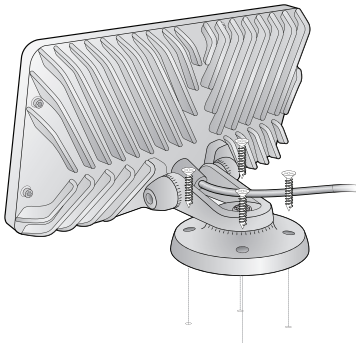
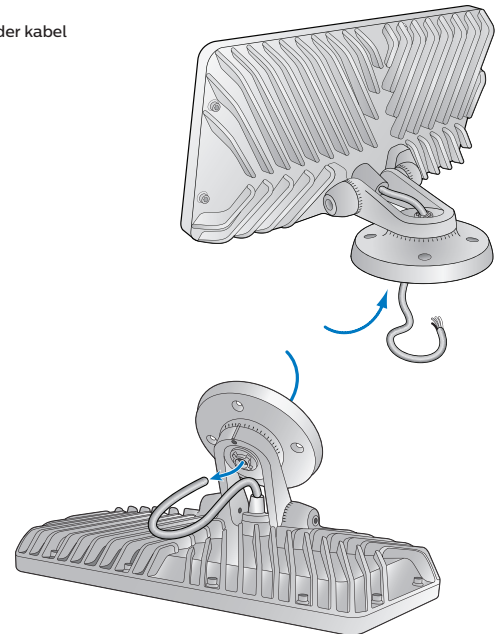
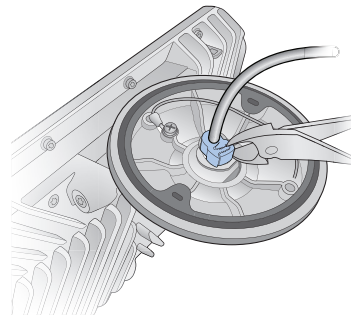
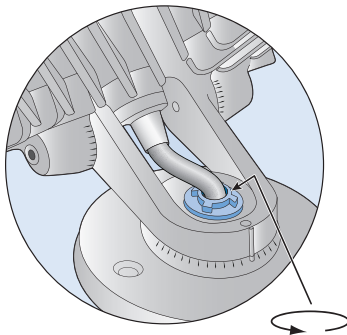
\* Optional    En option    Optional    Opcional    Opzionale    Opties    オプション    可选

### 5 Remove cable

enlever le câble    Nehmen Sie das Kabel heraus    quite el cable    togliere il cavo    Verwijder kabel  
ケーブル(電信)を取り除いてください    移开电缆

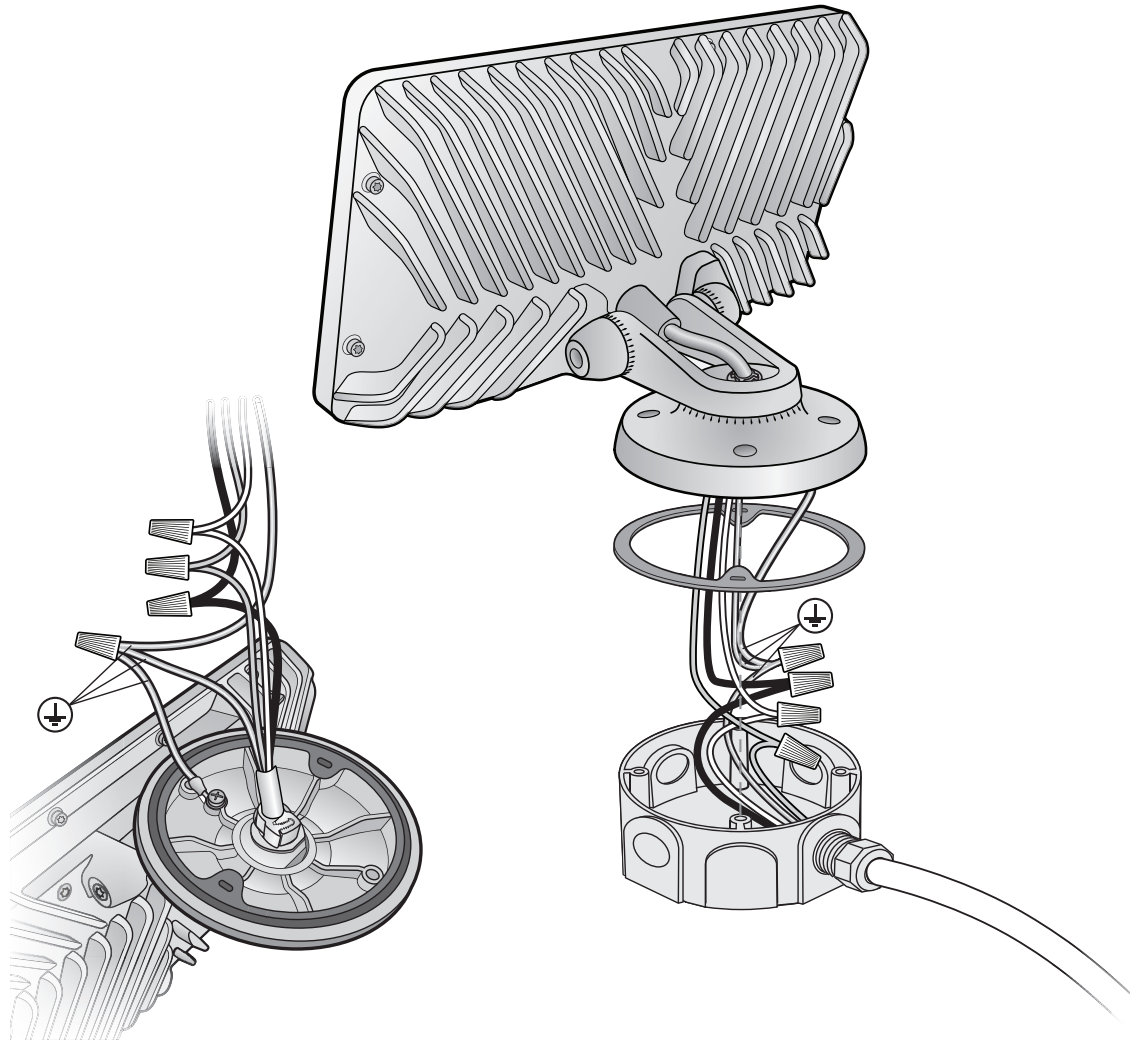
#### Loosen cable compression

Desserrez le presse-étoupe  
Lockern Sie die Kabelverschraubung  
Afloje la compresión del cable  
Allentare il connettore a compressione per cavo  
Kabeldruck entspannen  
ケーブルを緩めます。  
松开电缆固定支架



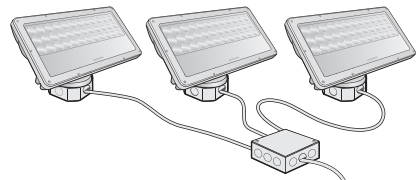
**6** Connect fixtures

Branchez les appareils Schließen Sie die Beleuchtungskörper an Conecte las lámparas  
 Collegare i gruppi di illuminazione Montageverbindungen 器具の接続 | 连接灯具

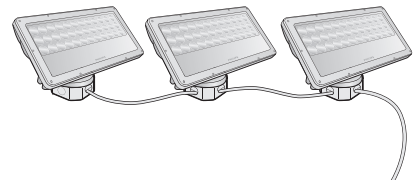


- |                               |  |                       |   |
|-------------------------------|--|-----------------------|---|
| <p><b>(L)</b><br/>(Brown)</p> | <p>Line Voltage<br/>Tension de secteur<br/>Netzspannung<br/>Tensión de línea<br/>Tensione di linea<br/>Netspanning<br/>線間電圧<br/>线路电压</p> | <p><b>(Green)</b></p> | <p>Ground<br/>Terre<br/>Masse<br/>Toma de tierra<br/>Terra<br/>Aarde<br/>アース<br/>接地</p> |
|-------------------------------|--|-----------------------|---|

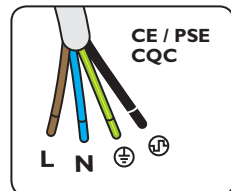
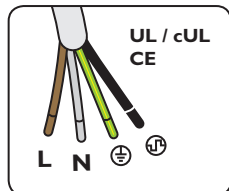
- |                                   |   |                       |  |
|-----------------------------------|---|-----------------------|--|
| <p><b>(N)</b><br/>(Gray/Blue)</p> | <p>Neutral<br/>Neutal<br/>Neutro<br/>Neutro<br/>Neutraal<br/>中性線<br/>零线</p> | <p><b>(Black)</b></p> | <p>Data<br/>Données<br/>Daten<br/>Datos<br/>Dati<br/>Data<br/>データ<br/>数据</p> |
|-----------------------------------|---|-----------------------|--|



**Line Voltage**  
 Tension de ligne  
 Leitungsspannung  
 Voltaje de línea  
 Tensione della linea  
 Gekoppelde spanning  
 ライン電圧  
 线路电压



**Line Voltage**  
 Tension de ligne  
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 Tensione della linea  
 Gekoppelde spanning  
 ライン電圧  
 线路电压



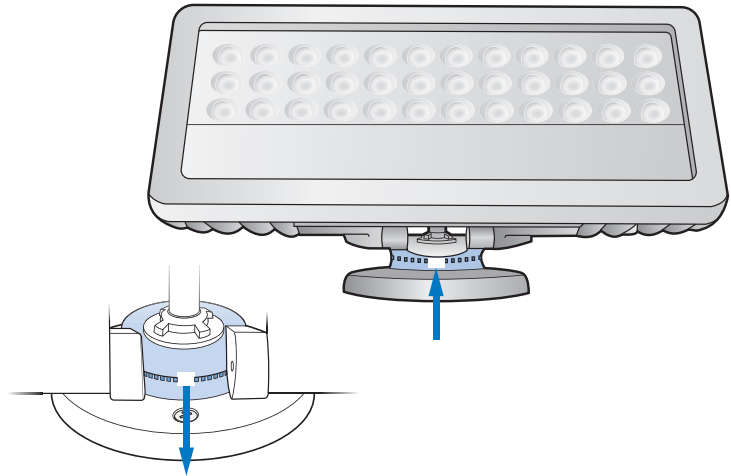
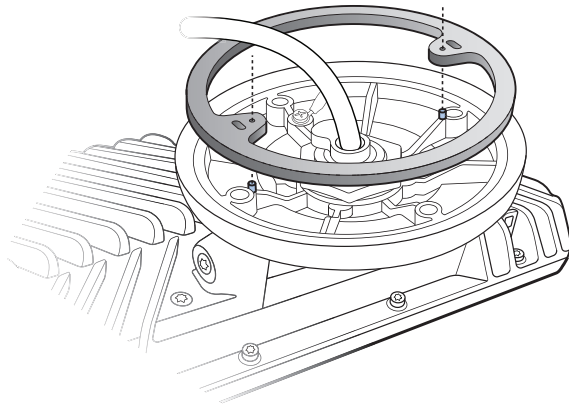
## 7 Mount fixtures

Branchez les appareils  
Montageverbindungen

Schließen Sie die Beleuchtungskörper an  
器具の接続 连接灯具

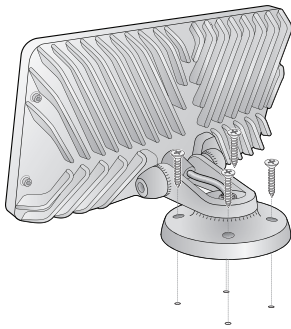
Conecte las lámparas

Collegare i gruppi di illuminazione



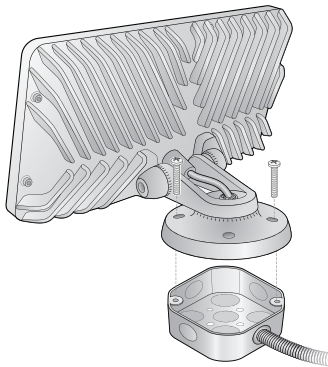
Front

Avante Frente Vorderseite  
Anteriore Voorkant フロント 前



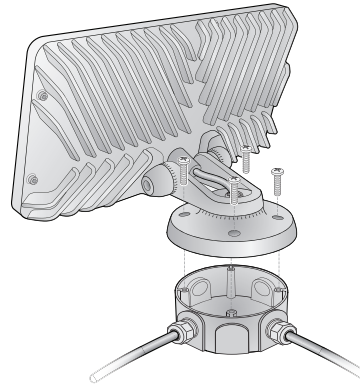
### Flat surface (customer-supplied hardware)

Surface plate (matériel fourni par le client)  
Glatte Oberfläche (vom Kunden bereitgestellte Hardware)  
Superficie plana (tornillería de montaje del cliente)  
Superficie piana (hardware fornito dal cliente)  
Vlak oppervlak (apparatuur verstrekt door de klant)  
フラットサーフェイス (お客様がご用意するハードウェア)  
平面 (客户提供的硬件)



### Indoor junction box (#8-32 screws)

Boîtier de connexion intérieur (vis n° 8-32)  
Innenraum-Abzweigdose (Nr. 8-32 Schrauben)  
Caja de conexiones interior (de 8 a 32 tornillos)  
Scatola di giunzione per interni (8-32 viti)  
Kabeldoos binnen (#8-32 schroeven)  
屋内用ジャンクションボックス (#8-32 のネジ)  
室内接线盒 (#8 - 32 螺丝)



### Outdoor junction box (#10-24 screws)

Boîtier de connexion extérieur (vis n° 10-24)  
Freiland-Abzweigdose (Nr. 10-24 Schrauben)  
Caja de conexiones exterior (de 10 a 24 tornillos)  
Scatola di giunzione per esterni (10-24 viti)  
Kabeldoos buiten (#10-24 schroeven)  
屋外用ジャンクションボックス (#10-24 のネジ)  
室外接线盒 (#10 - 24 螺丝)

**8** For wet or damp locations, seal all points of entry to prevent water infiltration. Use fixture gasket (supplied), RTV Silicone, and weatherproof junction boxes

Si l'endroit est humide ou mouillé, bouchez hermétiquement tous les points d'entrée pour éviter l'infiltration de l'eau. Utilisez un joint d'étanchéité pour appareil d'éclairage (fourni), de la silicone résistant aux variations de température et des boîtes de raccordement étanches à l'eau

An nassen oder feuchten Standorten versiegeln Sie bitte alle möglichen Eintrittspunkte, um das Eindringen von Wasser zu verhindern. Benutzen Sie die Dichtung für die Vorrichtung (mitgeliefert), RTV-Silikon und wetterfeste Verteilerkästen

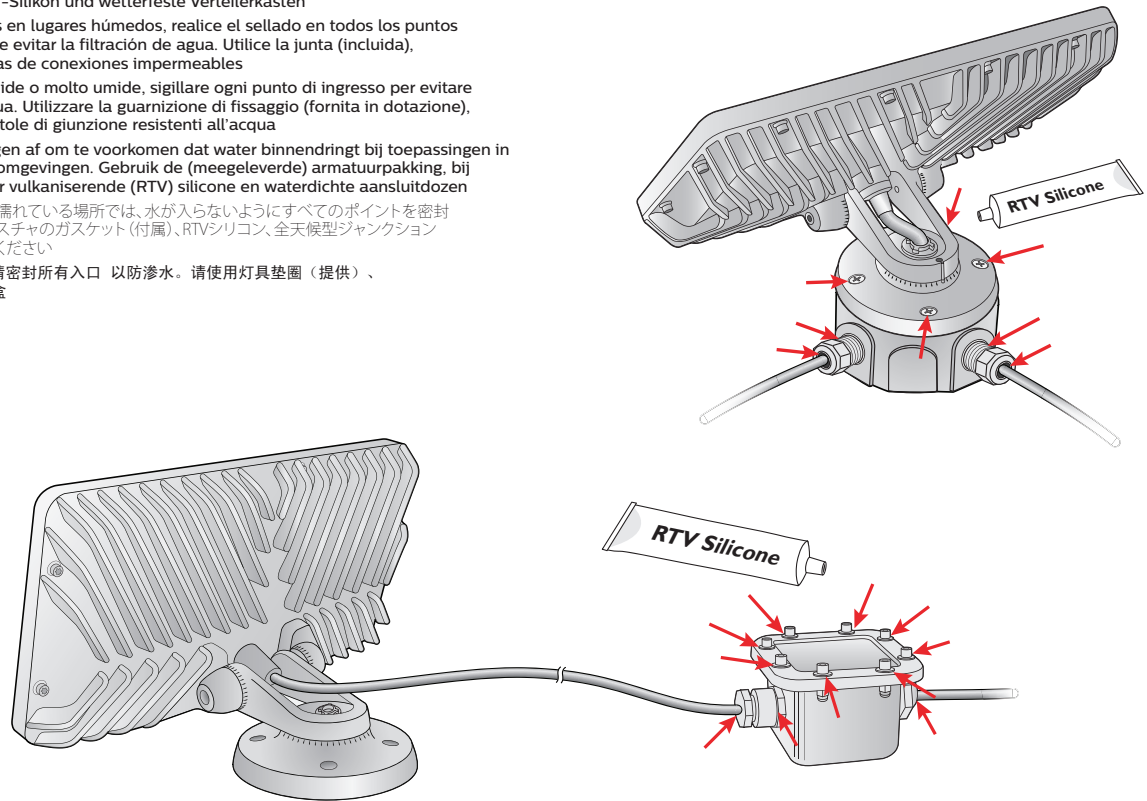
Para instalaciones en lugares húmedos, realice el sellado en todos los puntos de entrada a fin de evitar la filtración de agua. Utilice la junta (incluida), silicona RTV y cajas de conexiones impermeables

Per postazioni umide o molto umide, sigillare ogni punto di ingresso per evitare infiltrazioni d'acqua. Utilizzare la guarnizione di fissaggio (fornita in dotazione), silicone RTV e scatole di giunzione resistenti all'acqua

Dicht alle openingen af om te voorkomen dat water binnendringt bij toepassingen in natte of vochtige omgevingen. Gebruik de (meegeleverde) armatuurpakking, bij kamertemperatuur vulkaniserende (RTV) silicone en waterdichte aansluitdozen

湿気が高い、または濡れている場所では、水が入らないようにすべてのポイントを密封してください。フィクスチャのガスケット(付属)、RTVシリコン、全天候型ジャンクションボックスを使用してください

在潮湿的环境下，请密封所有入口 以防渗水。请使用灯具垫圈（提供）、RTV 硅和防水接线盒

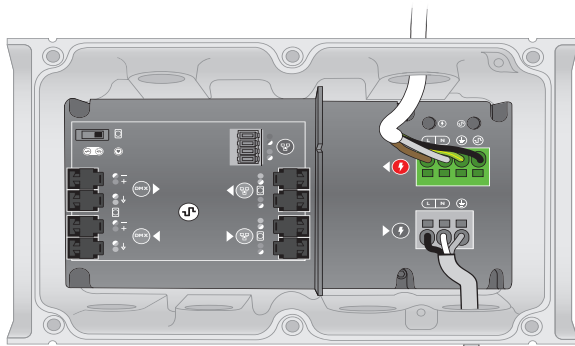


## 9 Precision Dimming Fixtures Only - Connect the leader cable

Lampes de précision de gradation seulement - Branchez le câble principal  
 Sólo lámparas de regulación de luz de precisión - Schließen Sie das Masterkabel an  
 solo l'illuminazione d'attenuazione di precisione - Enchufe el cable de alimentación eléctrica principal  
 Alleen precisie dimmen armaturen - Collegete il cavo pilota  
 Präzision dimmen armaturen nur - Sluit de geleidekabel aan  
 精密調光フィクスチャのみ - リーダーケーブルを接続します  
 只有精准的调光灯具 - 连接引线电缆

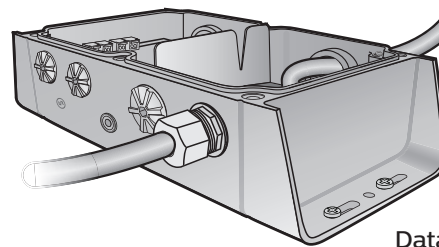
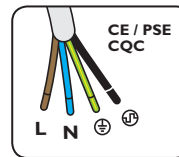
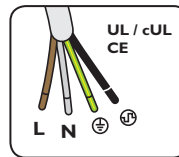
### To fixtures

Vers les appareils Zu den Beleuchtungskörpern  
 Entrada a las lámparas Nei gruppi di illuminazione  
 Naar de verlichtingsonderdelen フィクスチャへ 接至灯具



### Line Voltage

Tension de ligne Leitungsspannung  
 Voltaje de línea Tensione della linea  
 Gekoppelde spanning ライン電圧 线路电压



Data Enabler Pro

\* To add data control, see the Data Enabler Pro Installation Instructions:  
[www.colorkinetics.com/ls/pds/dataenablerpro/](http://www.colorkinetics.com/ls/pds/dataenablerpro/)

## 10 Turn the power ON

Rétablissez le courant  
 Schalten Sie die Stromzufuhr EIN  
 Encienda la alimentación eléctrica  
 Attivare l'alimentazione  
 Schakel de voeding in  
 電源をONにします  
 打开电源

## 11 Precision Dimming Fixtures Only - Address fixtures with QuickPlay Pro software

Lampes de précision de gradation seulement - Configurer les appareils à l'aide du logiciel QuickPlay Pro  
 Sólo lámparas de regulación de luz de precisión - Direccionar los lámparas con el software QuickPlay Pro  
 solo l'illuminazione d'attenuazione di precisione - Impostare i gruppi di illuminazione con il software QuickPlay Pro  
 Alleen precisie dimmen armaturen - Adresbevestigingen met QuickPlay Pro-software  
 Präzision dimmen armaturen nur - Beleuchtungseinheiten mit der QuickPlay Pro-Software ansteuern  
 精密調光フィクスチャのみ - QuickPlay Pro ソフトウェアで器具を操作します  
 只有精准的调光灯具 - 使用 QuickPlay Pro 软件配置各灯具

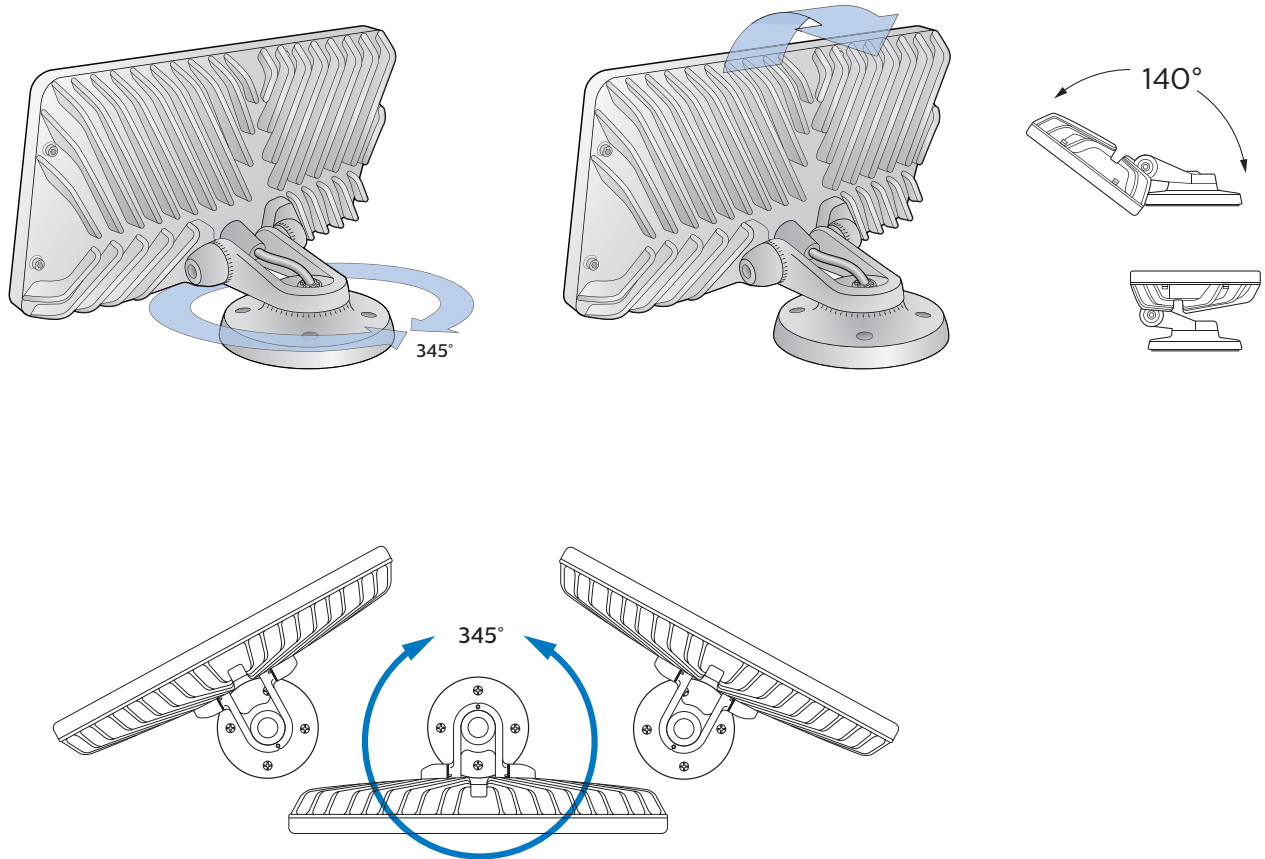
\* Address and Configure: [www.colorkinetics.com/support/addressing/](http://www.colorkinetics.com/support/addressing/)



**12** Aim the fixtures

Ajustez l'orientation des appareils d'éclairage  
 Richten Sie die Beleuchtungskörper aus  
 Oriente las lámparas  
 Orientare i gruppi di illuminazione  
 Richt de armaturen  
 Фиксачаの方向を調整します  
 对准灯具

**!** Do not look into beam  
 Ne regardez pas dans le faisceau  
 Nicht in den Strahl blicken  
 No mire directamente el rayo de luz  
 Non fissare il fascio di luce  
 Kijk niet in de lichtbundel  
 ビームが目に入らないよう注意してください  
 切勿直视光束

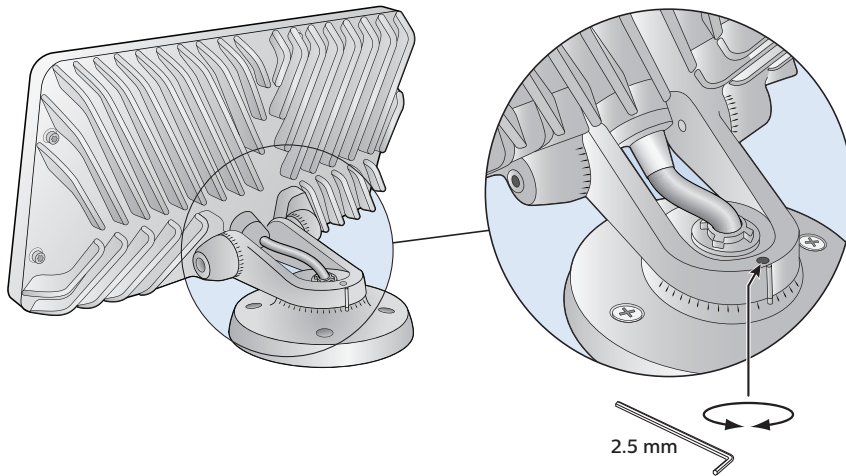


**13 Lock fixtures in place**

Verrouillez les appareils en place  
 Die Sperrvorrichtungen der Beleuchtungskörper verriegeln  
 Fije las lámparas en su ubicación  
 Bloccare i gruppi di illuminazione in posizione  
 Borg de bevestigingen op hun plaats  
 器具のロック  
 固定灯具

**Use only hand tools to lock fixtures**

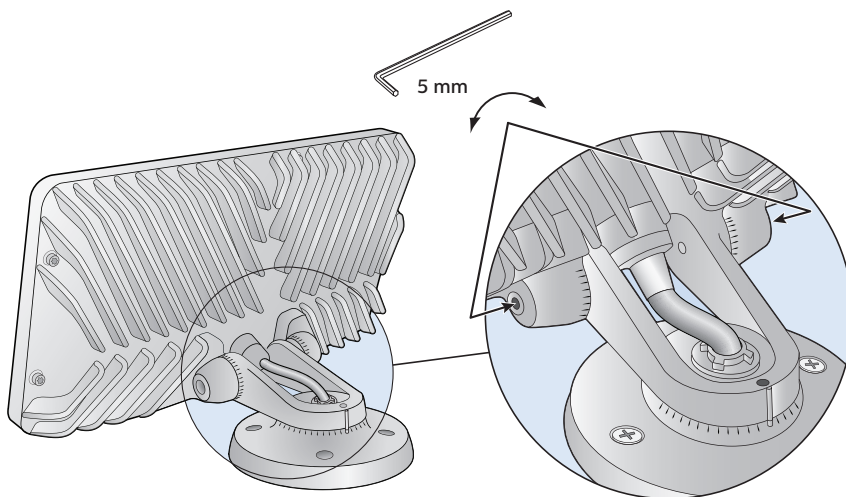
Utilisez uniquement les outils manuels pour verrouiller les équipements  
 Utilice solo herramientas manuales para fijar las lámparas  
 Per montare le attrezzature utilizzare solo strumenti manuali  
 Gebruik alleen handgereedschap om de armaturen vast te zetten  
 Verwenden Sie nur Handwerkzeuge, um die Leuchtenausrichtung zu sperren.  
 器具を固定する場合は手工具のみを使用してください  
 只能使用手工具来锁定固定装置

**Lock rotation screw (2.5 mm) first**

Serrez d'abord la vis de rotation (2,5 mm)  
 Ziehen Sie zuerst die Rotationsschraube (2,5 mm) fest;  
 En primer lugar, bloquee el tornillo de giro (2,5 mm);  
 Bloccare per prima la vite di rotazione (2,5 mm)  
 Blokkeer rotatieschroef (2,5 mm) eerst;  
 最初に回転ネジ (2.5 mm) をロックします。  
 先安装倾斜旋转螺丝 (2.5 毫米)

**Torque setting: 2.82 N-m (25 in-lbf)**

Couple de serrage 2,82 N-m (25 in-lbf)  
 Drehmomenteinstellung 2,82 N-m Pfundkraft  
 Par de apriete de 2,82 N-m libras  
 Impostazione della torsione 2,82 N m  
 Draaimoment instelling 2,82 N-m  
 トルク設定は 2,82 N-m  
 扭矩设置为 2.82 N-m 英寸-磅

**Tilt lock screws (5 mm)**

Vis de blocage du basculement (5 mm)  
 Kippsicherungsschrauben (5 mm)  
 Tornillos para el bloqueo de la inclinación (5 mm)  
 Viti di arresto per regolazione (5 mm)  
 Tiltlock-schroeven (5 mm)  
 チルト ロック ネジ (5 mm)  
 倾斜锁螺丝 (5 毫米)

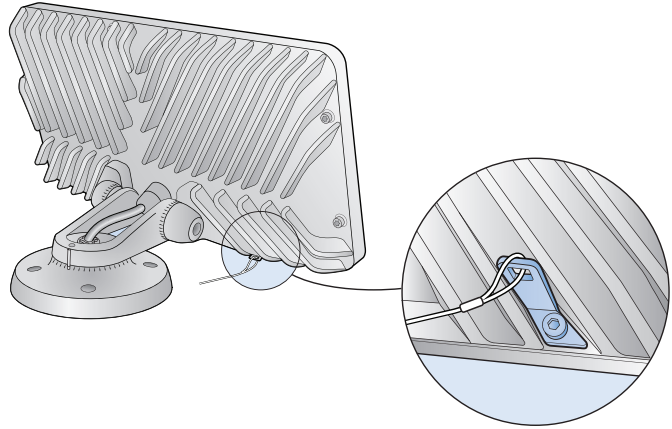
**Torque setting: 13.5 N-m (120 in-lbf)**

Couple de serrage 13,5 N-m (120 in-lbf)  
 Drehmomenteinstellung 13,5 N-m Pfundkraft  
 Par de apriete de 13,5 N-m libras  
 Impostazione della torsione 13,558 N m  
 Draaimoment instelling 13,5 N-m  
 トルク設定は 13,5 N-m  
 扭矩设置为 13.5 N-m 英寸-磅

\* Optional En option Optional Opcional Opzionale Opties オプション 可選

**14 Attach safety cable**

Fixez le câble de sécurité  
 Befestigen Sie das Sicherheitskabel  
 Conecte el cable de seguridad  
 Collegare il cavo di sicurezza  
 Sluit geaarde elektriciteitskabel aan  
 安全ケーブルを取り付けます。  
 连接安全电线

**Safety cable minimum requirements**

Material	304 or 316 stainless steel
Size	4 mm (5/32 in) nominal diameter Minimum break load must be greater than 2,400 lb (1,089 kg)

**Requisitos mínimos para el cable de seguridad**

Material	Acero inoxidable 304 ó 316
Tamaño	Diám. nominal de 4 mm pulg. (5/32). La carga de ruptura mínima debe ser superior a 2.400 libras (1.089 kg).

**ケーブルの安全最小要件**

材質	304 または 316 ステンレススチール
サイズ	4 mm 公称径 (5/32) インチ径。最小破断荷重 1,089 kg (2,400 lb) 以上

**Spécifications minimales du câble de sécurité**

Matériau	Acier inoxydable 304 ou 316
Taille	diamètre nominal de 4 mm po (5/32) La rupture de charge minimale doit être supérieure à 1.089 kg (2.400lb)

**Requisiti minimi del cavo di sicurezza**

Materiale	acciaio inox AISI 304 o 316
Dimensioni	Diametro nominale 4 mm. Carico di rottura minimo 1.089 kg

**安全电缆最低要求**

材质	304 或 316 不锈钢
尺寸	公称直径为 4 毫米 (5/32 英寸)。最小断裂载荷必须大于 1,089 千克 (2,400 磅)

**Mindestanforderungen für das Sicherungskabel**

Material	304 oder 316 Edelstahl
Maße	4 mm Nenn Durchmesser (5/32). Mindestbruchlast von über 1.089 kg (2.400 lb)

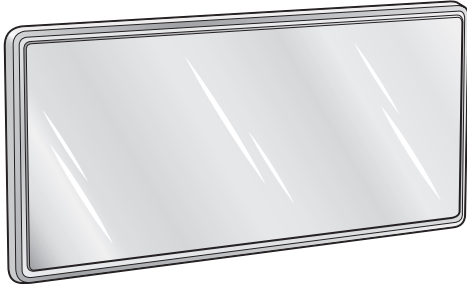
**Minimale vereisten veiligheidskabel**

Materiaal	304 of 316 roestvrij staal
Afmeting	4 mm diameter (5/32 in) nominale diameter. Minimale breukbelasting moet groter zijn dan 1.089 kg (2.400 lb)

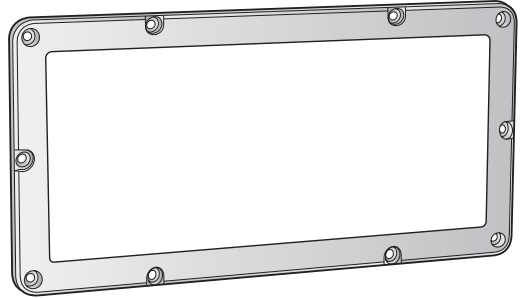
\* Optional En option Optional Opcional Opzionale Opties オプション 可选

**15 Attach accessories**

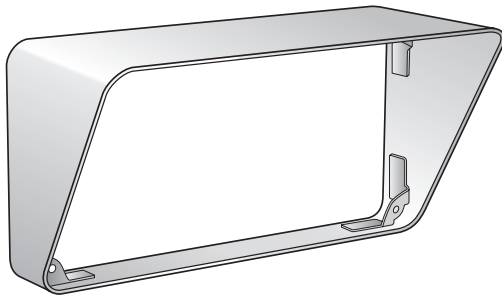
Fixez les accessoires    Zubehör befestigen    Accesorios de sujeción    Collegare gli accessori  
 Accessoires bevestigen    付属物の取り付け    连接附件



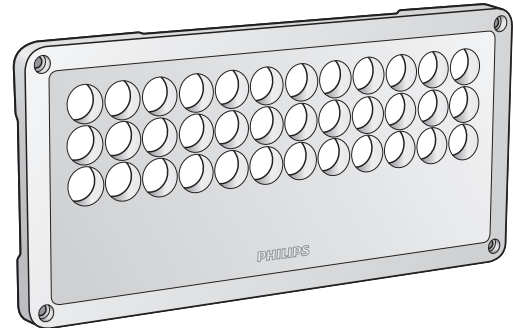
Spread Lens



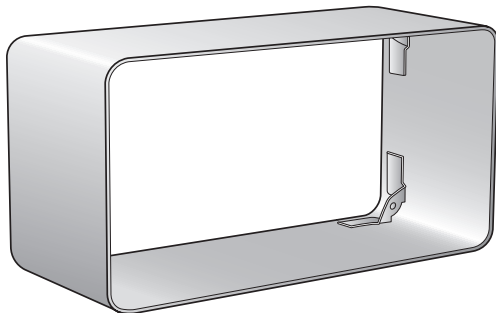
Trim Ring



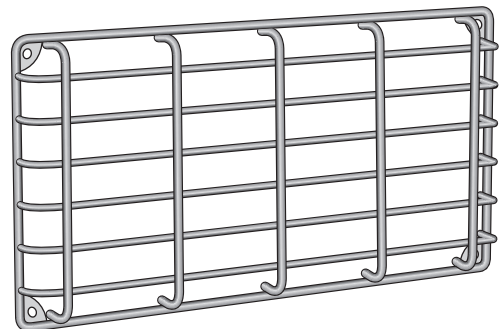
Glare Shield - Half



Louver



Glare Shield - Full



Rock Guard

\* Installation details: see the Blast Gen 4 Accessories Installation Instructions  
[www.colorkinetics.com/support/userguides/Blast\\_Accessories\\_Install.pdf](http://www.colorkinetics.com/support/userguides/Blast_Accessories_Install.pdf)

**⚠ Do not attempt to install or use a luminaire until you read and understand the installation instructions and safety labels.**

Assurez-vous d'avoir lu et compris les instructions d'installation et les autocollants de sécurité avant d'installer ou d'utiliser un appareil d'éclairage.

Installieren oder verwenden Sie einen Beleuchtungskörper erst, nachdem Sie die Installationsanweisungen und Sicherheitsetiketten gelesen haben.

No intente instalar o utilizar una lámpara sin previamente haber leído y comprendido las instrucciones de instalación y las etiquetas de seguridad

Non provare a installare o utilizzare un gruppo di illuminazione se non sono state lette e comprese le istruzioni per l'installazione e le etichette di sicurezza.

Probeer geen armaturen aan te brengen of te gebruiken voordat u de plaatsingsinstructies en veiligheidslabels hebt gelezen en begrijpt.

置手順と安全ラベルを読み理解してから、フィクスチャの設置または使用を始めてください。

阅读并理解安装说明和安全标签之前，切勿试图安装或使用灯

**⚠ Do not use a luminaire if the lens, housing, or power cables are damaged.**

N'utilisez pas un appareil d'éclairage si la lentille, le boîtier ou les câbles d'alimentation sont endommagés.

Verwenden Sie den Beleuchtungskörper nicht, wenn das Lampenglas, Gehäuse oder ein Netzkabel beschädigt ist.

No utilice una lámpara que presente daños en el cristal o plástico, estructura o en los cables de alimentación eléctrica.

Non utilizzare un gruppo di illuminazione se il gruppo ottico, l'alloggiamento o i cavi di alimentazione sono danneggiati.

Gebruik een armatuur niet indien de lens, behuizing of voedingkabels zijn beschadigd.

レンズ、ハウジング、または電源ケーブルが損傷している場合は、フィクスチャを使用しないでください。

如果灯镜片、灯壳或电线受损，切勿使用产品。

**⚠ Ensure that main power supply is off before installing or wiring a fixture.**

Assurez-vous que l'alimentation principale est coupée avant d'installer ou de câbler un appareil d'éclairage.

Vergewissern Sie sich, dass die Stromzufuhr unterbrochen ist, bevor Sie einen Beleuchtungskörper installieren oder ans Stromnetz anschließen.

Antes de instalar o cablear una lámpara, asegúrese de que la alimentación eléctrica esté desconectada.

Accertarsi che la tensione di rete principale sia disattivata prima di installare o cablare un gruppo di illuminazione.

Zorg dat de stroomvoorziening is uitgeschakeld voordat u een armatuur installeert of be-drading aanbrengt.

フィクスチャを設置または配線する前に、主電源がオフであることを確認してください。

对灯具进行安装或接线时，需确保主电源已关闭。

**⚠ luminaires have line voltage risk of shock and no user serviceable parts. Do not attempt to open them.**

La tension composée des appareils d'éclairage présente un risque de choc électrique et les pièces ne sont pas réparables par l'utilisateur. Ne tentez pas de les ouvrir.

Die elektrischen Leiter der Beleuchtungskörper können einen Stromschlag verursachen, und die Beleuchtungskörper enthalten keine vom Benutzer wartbaren Teile. Versuchen Sie nicht, einen Beleuchtungskörper zu öffnen.

Al manipular las lámparas existe riesgo de descarga eléctrica. Las lámparas no contienen piezas que puedan ser reparadas por el usuario. No intente abrirlas.

I gruppi di illuminazione presentano rischi di scosse elettriche e non contengono componenti sostituibili dall'utente. Non aprirli.

Bij armaturen is een risico op schokken door lijnspanning aanwezig en armaturen bevatten geen onderdelen die door de gebruiker kunnen worden onderhouden. Probeer armaturen niet open te maken.

フィクスチャには、感電の危険がある電流が流れており、ユーザーが保守できる部品はありません。フィクスチャを開けようとしないでください。

灯具存在线电压电击的危险，且无用户可修理的部件。切勿试图打开产品。

**⚠ Do not use a luminaire for any voltage for which it is not rated. Do not exceed the specified voltage and current input for any luminaire.**

N'utilisez pas un appareil d'éclairage sous une tension autre que la tension nominale. Ne dépassez jamais la tension et la consommation de courant spécifiées pour un appareil d'éclairage.

Verwenden Sie den Beleuchtungskörper nicht bei Stromspannungen, für die der Beleuchtungskörper nicht bestimmt ist. Die für einen Beleuchtungskörper angegebene Spannung und der angegebene Eingangsstrom dürfen nicht überschritten werden.

No conecte la lámpara a un voltaje distinto al especificado. No sobrepase el voltaje o la corriente eléctrica especificados en ninguna de las lámparas.

Non utilizzare un gruppo di illuminazione su una rete elettrica non classificata. Non superare la tensione e la corrente di ingresso specificate per il gruppo di illuminazione.

Gebruik een armatuur niet bij een spanning waarvoor deze niet is bestemd. De opgegeven spannings- en stroomwaarden mogen voor een armatuur niet worden overschreden.

規定以外の電圧でフィクスチャを使用しないでください。フィクスチャに供給される電圧および電流が、指定された値を超えないようにしてください。

切勿在任何非额定电压的情况下，使用产品。切勿超出灯具规定的电压与输入电流。

**⚠ Do not hot swap luminaires. Ensure that power to the series is off before connecting or disconnecting individual luminaires.**

Ne remplacez pas les appareils d'éclairage à chaud. Assurez-vous que l'alimentation série est coupée avant de brancher ou de débrancher chaque appareil d'éclairage.

Tauschen Sie einen Beleuchtungskörper nicht im eingeschalteten Zustand aus. Vergewissern Sie sich, dass die Stromzufuhr zu einer Serie von Beleuchtungskörpern unterbrochen ist, bevor Sie einzelne Beleuchtungskörper anschließen oder vom Stromnetz trennen.

No sustituya lámparas mientras estén calientes. Asegúrese de que la alimentación eléctrica de toda la serie de lámparas esté desconectada antes de conectar o desconectar una lámpara individual.

Non sostituire a caldo i gruppi di illuminazione. Accertarsi che l'alimentazione in serie sia disattivata prima di collegare o scollegare i singoli gruppi di illuminazione.

Vervang een armatuur niet terwijl deze aan is. Zorg dat de voeding naar de reeks is uitgeschakeld voordat u afzonderlijke armaturen aansluit of loskoppelt.

電源を入れたままフィクスチャを交換しないでください。個々のフィクスチャを接続または取り外す前に、直列フィクスチャへの電源がオフであることを確認してください。

切勿热插拔产品。连接或断开单个灯具之前，必须确保供该系列之电源已关闭。

**ⓘ 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. 2) This device must accept any interference received, including interference that may cause undesired operation.**

**ⓘ 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.**

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer

**ⓘ This Class B digital apparatus complies with Canadian ICES-005. Cet appareil numérique de la classe B est conforme a la norme NMB-005 du Canada.**

**ⓘ 220V条件下功率因数≥0.90，最大电流0.25A.**



# Data Enabler Pro

Integrated data and power for intelligent LED luminaires employing Powercore technology

# Data Enabler Pro

## Integrated data and power for intelligent LED luminaires employing Powercore technology

Data Enabler Pro delivers integrated data and power to intelligent color and tunable white LED luminaires employing Powercore technology from Philips Color Kinetics. Data Enabler Pro integrates many of the features of the previous generation of Data Enablers, including Data Enabler DMX, Data Enabler Ethernet, and Data Enabler EO. Data Enabler Pro is the single solution for all intelligent Powercore-based installations, whether DMX or Ethernet, color or white, indoors or outdoors.

- Easy installation—Accessible, clearly labeled terminal block connectors for DMX, Ethernet, line voltage, and luminaires make installation easy. Tethered cover with captive screws ensures convenient removal and replacement.
- Supports luminaires employing Powercore technology—Powercore technology rapidly, efficiently, and accurately controls power output to LED luminaires directly from line voltage. Philips Data Enabler Pro merges line voltage and control data and delivers them to Powercore luminaires over a single cable, dramatically simplifying installation and lowering total system cost.
- On-board diagnostics—On-board indicator LEDs provide visual feedback for normal operation, Ethernet connection detection, and Ethernet and DMX data transmission.
- Full support for DMX and Ethernet—Provides inputs and outputs for both DMX and Ethernet, allowing you to connect multiple Data Enabler Pro devices in series. Also provides an Ethernet output terminal for eW Accent MX Powercore and iColor Accent MX Powercore support.
- Outdoor-rated for use in damp and wet environments—Data Enabler Pro offers superior leakage protection in a cast aluminum, IP66-rated enclosure.
- Multiple conduit entries—Data Enabler Pro conduit entries accommodate NPT conduit in metric sizes of PG13 and PG21 or US trade sizes of 1/2 in and 3/4 in.
- Universal power input range—Data Enabler Pro automatically senses mains voltages ranging from 100 to 277 VAC, and passes mains voltages through to all connected lights.

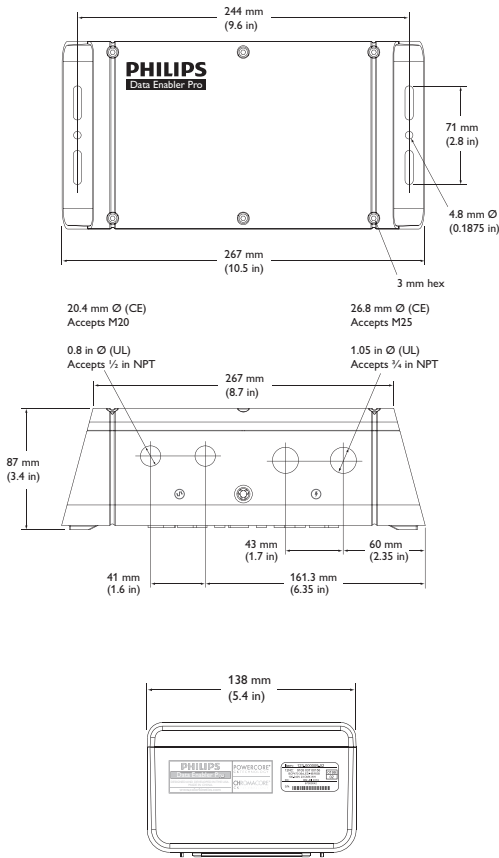


### Designed for Maximum Energy Efficiency

Data Enabler Pro consumes just 20 W maximum. Optional power-saving modes automatically cut power to attached lights when lights are off for a configurable number of minutes.

# Specifications

Due to continuous improvements and innovations, specifications may change without notice.



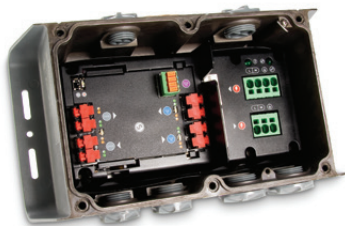
Item	Specification	Details
Electrical	Input Voltage	100 to 277 VAC*, auto-ranging, 50/60 Hz
	Maximum Input Current	16.5 A maximum
	Power Consumption	20 W maximum
	Load Current	16 A maximum
Connections	Power Input	3-wire PC terminal block connector†
	Power/Data Output (To luminaire)	4-wire PC terminal block connector† 4-wire IDC terminal block connector (eW Accent MX Powercore and iColor Accent MX Powercore only)‡
	DMX Input/Output	Double-pair, double-entry IDC connectors‡
	Ethernet Input/Output	Double-pair, double-entry IDC connectors‡
Physical	Dimensions (Height x Width x Depth)	87 x 267 x 138 mm (3.4 x 10.5 x 5.4 in)
	Weight	2.4 kg (5.4 lb)
	Construction	Cast aluminum enclosure with slots for surface mounting
	Finish	Powder-coated industrial gray matte
	Threaded Openings	PG21 for power, PG13 for data (metric) 3/4 in NPT for power, 1/2 in NPT for data (US trade)
	Temperature Ranges	-40 to 122 °F (-40 to 50 °C) Operating -20 to 122 °F (-20 to 50 °C) Startup -40 to 176 °F (-40 to 80 °C) Storage
	Humidity	0 to 95%, non-condensing
	Cooling	Convection
	Heat Dissipation	20 W
	Data Input Source	Philips Color Kinetics full range of controllers, including Light System Manager, Video System Manager Pro, iPlayer 3, Antumbra iColor Keypad, and ColorDial Pro, or third-party controllers.
Certification and Safety	Certification	UL/cUL, FCC Class A, CE, C-Tick
	Environment	Dry/Damp/Wet Location, IP66

\* Verify that the line voltage is appropriate for the luminaires in your installation. See a specific luminaire's documentation for supported line voltages.



† PC terminal block connectors accept recommended wire sizes from 8.37 to 0.823 mm<sup>2</sup> (8 to 18 AWG).

‡ IDC connectors accept wire sizes from 0.326 to 0.129 mm<sup>2</sup> (22 to 26 AWG).



# Ordering Information

Item	Type	Item Number	Philips 12NC
Data Enabler Pro	3/4 in/1/2 in NPT (US trade size conduit)	106-000004-00	910503701210
	PG21/PG13 (metric size conduit)	106-000004-01	910503701211

Use Item Number when ordering in North America.



## Installation

Data Enabler Pro integrates data and power transmission for all intelligent color and tunable white LED luminaires employing Powercore technology from Philips Color Kinetics. Installation specifics will vary depending on luminaire types, controller, environment (dry or damp/wet), and network (DMX, Ethernet, or a combination).

### Owner/User Responsibilities

It is the responsibility of the contractor, installer, purchaser, owner, and user to install, maintain, and operate Data Enabler Pro in such a manner as to comply with all applicable codes, state and local laws, ordinances, and regulations. Consult with the appropriate electrical inspector to ensure compliance.

### Installing in Damp or Wet Locations

When installing in damp or wet locations, seal all junction boxes, power supplies, and other devices with electronics-grade RTV silicone sealant so that water or moisture cannot enter or accumulate in any wiring compartments, cables, luminaires, or other electrical parts. You must use suitable outdoor-rated junction boxes when installing in wet or damp locations. Additionally, you must use gaskets, clamps, and other parts required for installation to comply with all applicable local and national codes.

\* Refer to the Data Enabler Pro Installation Instructions for specific warning and caution statements.

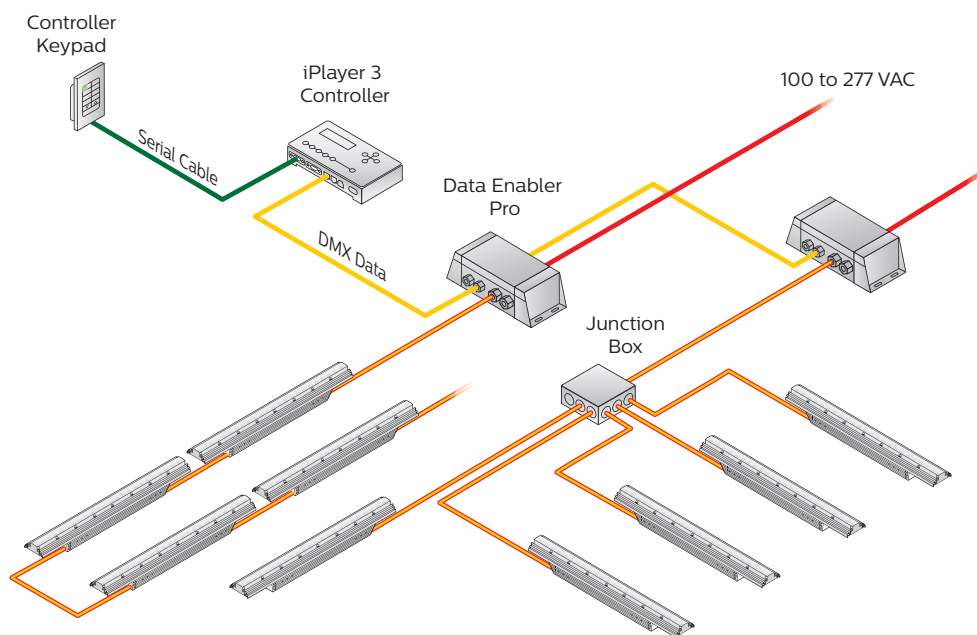
## Plan the Installation

To streamline installation and ensure accurate configuration, start with a layout or a lighting design plan that shows the physical layout of the installation and identifies the locations of all luminaires, Data Enabler Pro devices, controllers, switches, and cables.

### DMX and Ethernet Configurations

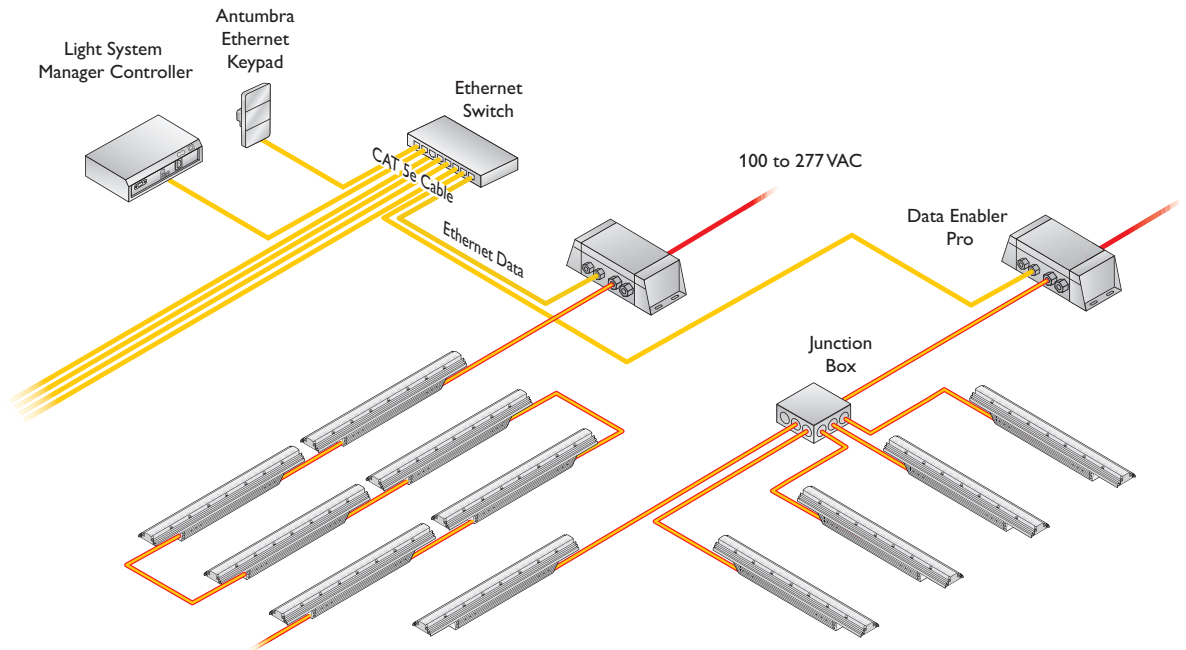
Data Enabler Pro can be used in either DMX or Ethernet networks. DMX is appropriate for relatively simple installations, or for installations in which groups of lights operate in unison—for example, for accent lighting, perimeter lighting, or cove lighting applications.

Typical DMX installations with intelligent LED luminaires from Philips Color Kinetics use a controller such as iPlayer 3, a Controller Keypad for turning the lighting system on and off and for triggering light shows, and one or more Data Enabler Pro devices. Data Enabler Pro devices can be connected in series to deliver DMX data from a single controller to all connected lights.



Because it is not subject to the DMX addressing limitations, Ethernet is the preferred environment for large-scale, color-changing light shows and video displays, both of which require large numbers of unique addresses.

Typical Ethernet installations with Philips Color Kinetics LED luminaires use an Ethernet switch, an Ethernet controller such as Light System Manager or Video System Manager Pro, Ethernet Controller Keypads for push-button light show triggering, and one or more Data Enabler Pro devices. While your specific lighting network configuration may allow for additional devices, we recommend that you limit individual Ethernet runs to 15 or fewer Data Enabler Pro devices. For additional Data Enabler Pro devices in a network, use additional Ethernet switch ports.



**Electrical Configuration Guidelines**

Linear Powercore luminaires, such as iColor Cove MX Powercore, iColor Accent Powercore, and iW Cove MX Powercore, are installed in series using the luminaires' end-to-end connectors or jumper cables. Multiple runs are typically installed to a common junction box. Powercore floodlights, wash lights, and spotlights, such as ColorReach Powercore, ColorBlast Powercore, and ColorBurst Powercore, can be installed in series (each wired to a separate junction box) or in parallel (wired to a common junction box).

The maximum number of luminaires each Data Enabler Pro can support depends on the luminaire type and method of connection, as well as on additional configuration details such as luminaire spacing, circuit size, wire gauge, and line voltage. As an example, the table to the left lists the maximum number of ColorBlast Powercore luminaires each Data Enabler Pro can support at various voltages, assuming a 20 A circuit and 1.5 m (5 ft) jumper cables between luminaires. Keep in mind that these figures, provided as a guideline, are accurate for the specified configuration only, and that changing the configuration can affect the number of luminaires per Data Enabler Pro.

**ColorBlast Powercore luminaire run length example**

30 @ 110 VAC
36 @ 120 VAC
66 @ 220 VAC
72 @ 240 VAC

Assuming luminaires installed on a 20 A circuit, using 1.5 m (5 ft) jumper cables

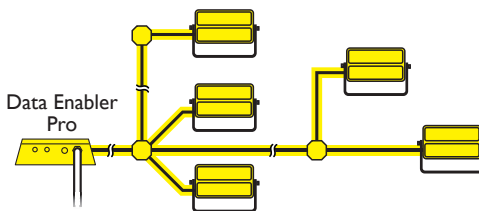
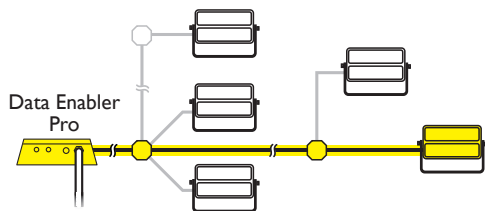
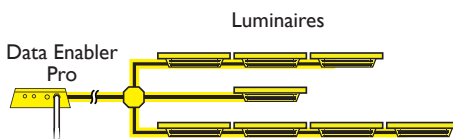
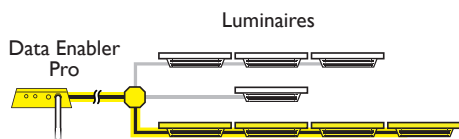
\* Verify that the line voltage is appropriate for the luminaires in your installation. See a specific luminaire's documentation for supported line voltages.

Philips Color Kinetics offers a Configuration Calculator to help calculate the number of luminaires a specific installation can support. You can download the Configuration Calculator from [www.colorkinetics.com/support/install\\_tool/](http://www.colorkinetics.com/support/install_tool/). For further help, please consult Application Engineering Services at [support@colorkinetics.com](mailto:support@colorkinetics.com).

Data Enabler Pro must be installed in a location that allows air to move freely around the device. Startup and operating temperatures are rated to 50 °C (122 °F). Exceeding this temperature limit may cause device damage or failure.

### Data Configuration Guidelines

In addition to maximum luminaire run lengths determined by the electrical configuration, each Data Enabler Pro imposes maximum run lengths based on data integrity. To ensure data integrity, maximum individual run length should not exceed 53.3 m (175 ft), and the total cable length per Data Enabler Pro should not exceed 122 m (400 ft).

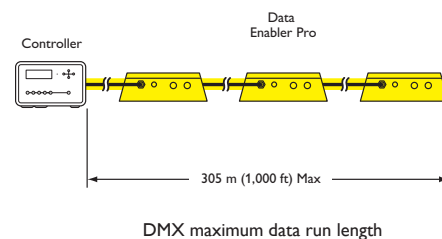
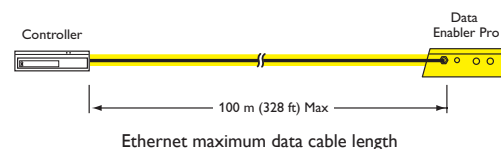


Data Integrity – maximum individual length 53.3 m (175 ft)

Data Integrity – total length 122 m (400 ft)

When selecting mounting locations for the Data Enabler Pro devices in your installation, keep cable and luminaire run length maximums in mind:

- In Ethernet networks, maximum data cable lengths are 100 m (328 ft) between Ethernet devices without a repeater (for example, controller to switch, or switch to Data Enabler Pro).
- In DMX networks, maximum data run lengths are 305 m (1,000 ft). The maximum number of Data Enabler Pro devices that can be connected in series is 32. We recommend using DMX repeaters for data run lengths that exceed the maximum length, as well as for runs of more than 32 Data Enabler Pro devices connected in series.



## Assemble Additional Items

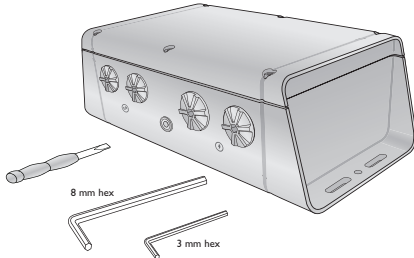
The following additional items are required to mount and connect Data Enabler Pro.

- 4 mounting screws suitable for the mounting surface
- For installations using metric size conduit, PG21 watertight conduit and fittings for power, and PG13.5 watertight conduit and fittings for data, as required by local codes
- For installations using US trade size conduit, 3/4 in NPT watertight conduit and fittings for power, and 1/2 in NPT watertight conduit and fittings for data, as required by local codes
- CAT 5e or better data cable, as required
- 4-conductor copper wire for luminaire connections, as required. Standard 3.31 mm<sup>2</sup> (12 AWG) stranded wire is recommended.
- Electronics-grade RTV silicone for installations in damp and wet locations
- Screwdrivers, wire strippers, and other tools as needed

## Inspect Data Enabler Pro and Accessories

### Included in the box

Data Enabler Pro
8 mm hex wrench
3 mm hex wrench
Flat blade screwdriver
Installation Instructions



Carefully inspect the box containing Data Enabler Pro and the contents for any damage that may have occurred in transit.

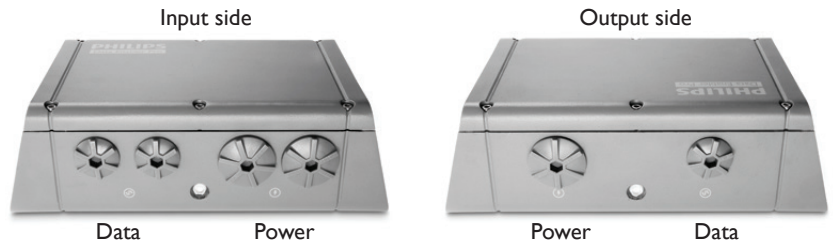
We recommend that you ensure your Data Enabler Pro devices are running the latest version of the firmware, and update the firmware if necessary, before positioning and mounting the devices. See pp. 20 to 23 of this guide for complete information.

## Position and Mount Data Enabler Pro

Make sure the power is OFF before mounting and connecting Data Enabler Pro.

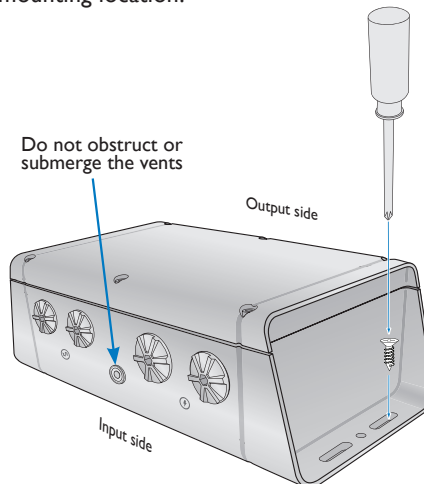
1. Each Data Enabler Pro device is identified by a unique serial number and IP address. The serial number and default IP addresses are located on a label inside the Data Enabler Pro housing. If your installation requires multiple Data Enabler Pro devices, record the serial numbers (DMX) or IP addresses (Ethernet) in a layout grid (typically a spreadsheet or list) for easy reference.
2. Assign each device to a position in the lighting design plan.
3. Position each Data Enabler Pro device in its designated mounting location. Make sure the mounting surface is flat, suitable for the mounting hardware, and clear of debris and other obstructions.

The overall dimensions of each Data Enabler Pro device are 267 mm (10.5 in) wide x 138 mm (5.4 in) deep x 87 mm (3.4 in) high. Make sure the mounting location allows enough space around the housing for air to move freely around the device. Be careful not to obstruct or submerge the vents on either side of the Data Enabler Pro housing.



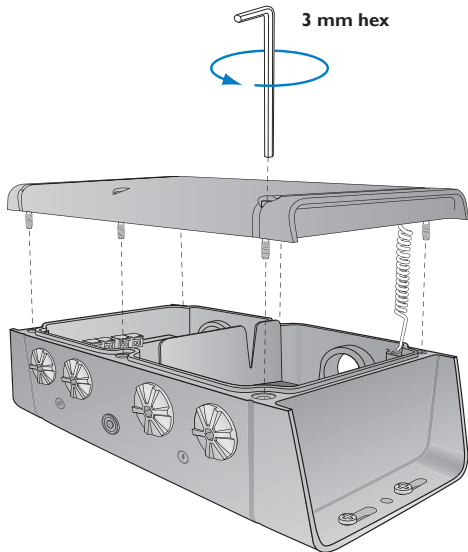
We recommend orienting Data Enabler Pro so that power and data cables enter the input side of the housing (the side with four threaded openings), and luminaire cables exit the output side (the side with two threaded openings).

4. Use four suitable mounting screws to secure Data Enabler Pro to the mounting location.




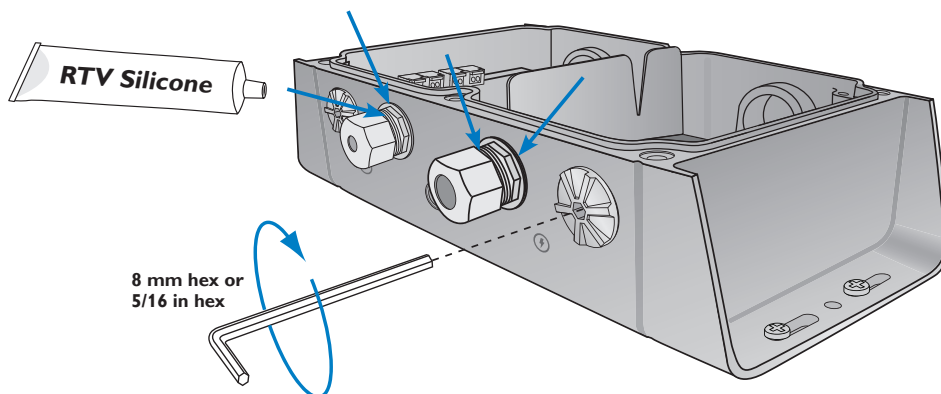
## Prepare for Cable Connections

- Using the included 3 mm hex wrench, loosen the housing cover's six captive screws to open the Data Enabler Pro housing.



- Identify which openings to use for power and data cables, and remove the seal plugs from the openings.
  - For installations using metric size conduit, the larger openings accommodate PG21 cable connectors for power, and the smaller openings accommodate PG13.5 cable connectors for data.
  - For installations using US trade size conduit, the larger openings accommodate 3/4 in NPT cable connectors for power, and the smaller openings accommodate 1/2 in NPT cable connectors for data.
- Install and tighten cable connectors to manufacturer's specs. Do not overtighten.
- Torque remaining seal plugs to approximately 2.2 Nm (19 in-lb).

 In wet or damp locations, use electronics-grade RTV silicone to seal all points of entry in all Data Enabler Pro devices and all connected junction boxes to prevent water infiltration.

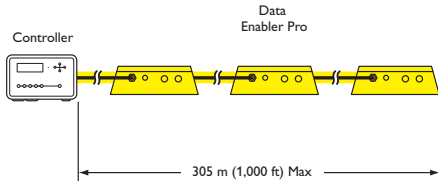
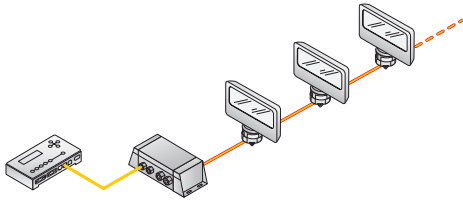


## Make Data Input Connections

Data Enabler Pro has different connectors for DMX and Ethernet data inputs. Instead of RJ45 connectors, Data Enabler Pro uses double-pair, double-entry IDC connectors, which accept unstripped cable wire strands.

Philips Color Kinetics uses a DMX scheme that differs slightly from the popular DMX scheme maintained by the Entertainment Services and Technology Association (ESTA). You use the CK DMX scheme with Philips Color Kinetics DMX controllers, and the ESTA DMX scheme with many common third-party DMX controllers.

1. Run CAT 5e or better cable from the data output port of a Philips Color Kinetics DMX controller, such as iPlayer 3.
2. If necessary, cut the cable jacket to expose the wire pairs. Do not strip the wire pairs.
3. Locate the DMX input pivot connectors inside the Data Enabler Pro housing. Open both pivot connectors.
4. Insert the wires into the IDC connector's wire entry holes from right to left as follows:



DMX maximum data run length

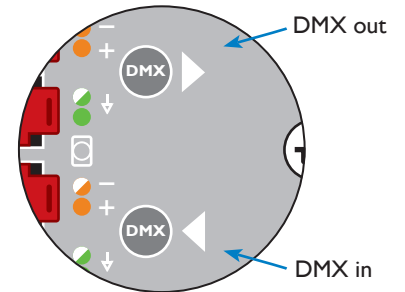
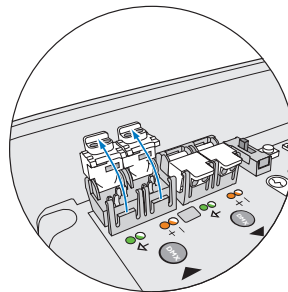
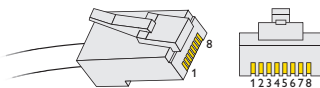
\* IDC connectors accept wire sizes from 0.326 to 0.129 mm<sup>2</sup> (22 to 26 AWG).

### CK RJ45 Pinouts

RJ45 Pin #	CK DMX Signal	Wire Color
1	DMX_DATAto	Orange/White
2	DMX_DATA+	Orange
3	GND	Green/White
6	GND	Green

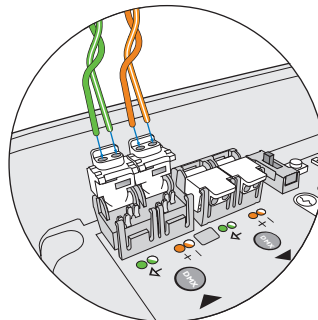
### ESTA RJ45 Pinouts

RJ45 Pin #	DMX512-A Signal	Wire Color
1	DMX_DATA+	Orange/White
2	DMX_DATAto	Orange
7	GND	Brown/White
8	GND	Brown

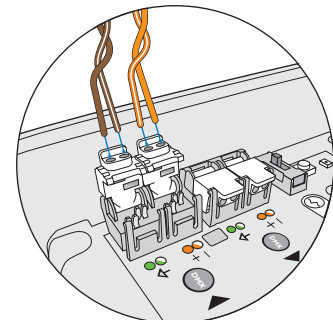


- For CK DMX, Orange/White, Orange, Green/White, and Green.
- For ESTA DMX, Orange/White, Orange, Brown/White, and Brown.

The unused wires should be capped and turned back.

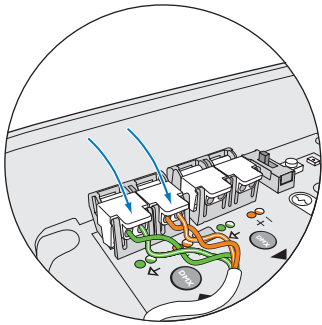


CK DMX wiring

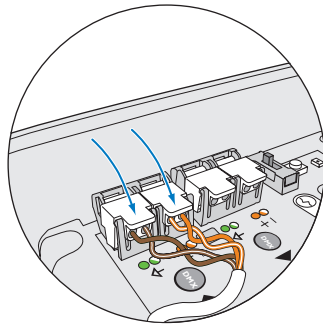


ESTA DMX wiring

- While holding the wires firmly in place, push down on the pivot connectors until they click shut.

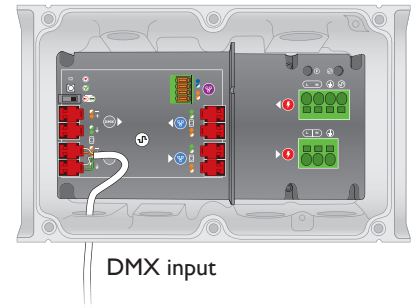
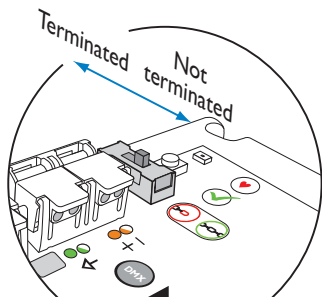


CK DMX wiring



ESTA DMX wiring

- Unless you're connecting additional devices in series, use the termination switch to terminate the series.



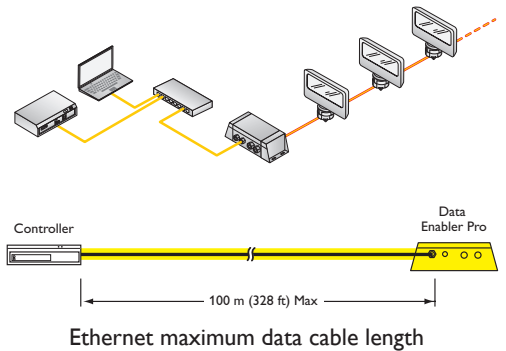
DMX input

**Ethernet Data Input Connections**

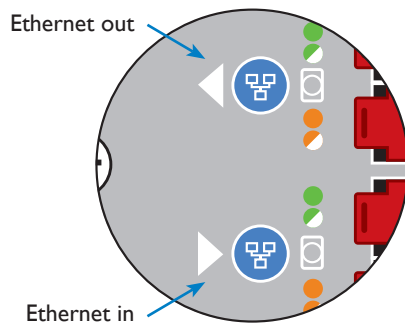
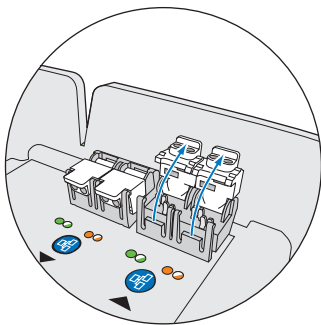
- Run CAT 5e or better cable from the data output port of a Philips Color Kinetics Ethernet controller, such as Light System Manager or Video System Manager Pro.
- If necessary, cut the cable jacket to expose the wire pairs. Do not strip the wire pairs.

The Brown, Brown/White, Blue, and Blue/White wires are not used and should be capped and turned back.

- Locate the Ethernet input pivot connectors inside the Data Enabler Pro housing. Open both pivot connectors.



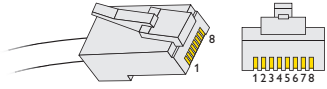
Ethernet maximum data cable length



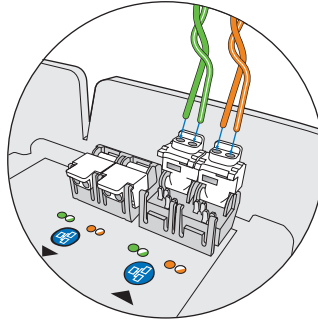
\* IDC connectors accept wire sizes from 0.326 to 0.129 mm<sup>2</sup> (22 to 26 AWG).

**Ethernet Pinouts**

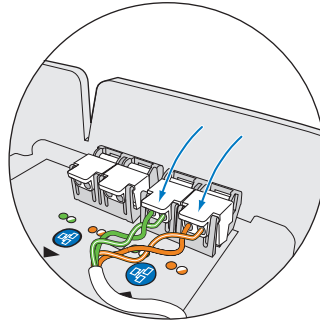
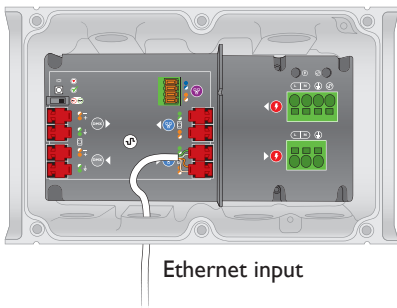
RJ45 Pin #	Ethernet Signal	Wire Color
1	RxD+	Orange/White
2	RxDto	Orange
3	TxD+	Green/White
6	TxDto	Green



- From right to left, following the wire color codes printed on the data board, insert the Orange/White, Orange, Green/White, and Green wires into the pivot connector's wire entry holes.



- While holding the wires firmly in place, push down on the pivot connectors until they click shut.





## Connecting Data Enabler Pro Devices in Series (Optional)

Installations with large numbers of luminaires may require multiple Data Enabler Pro devices. Data Enabler Pro affords DMX and Ethernet output connectors, which you can use to connect two or more Data Enabler Pro devices in series.

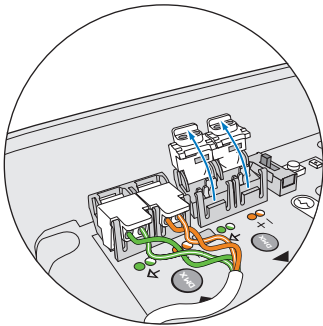
### Series Connection Using DMX

In DMX networks, you should use DMX repeaters for run lengths of over 325 m (1000 ft). Also use a DMX repeater for runs of more than 32 Data Enabler Pro devices connected in series.

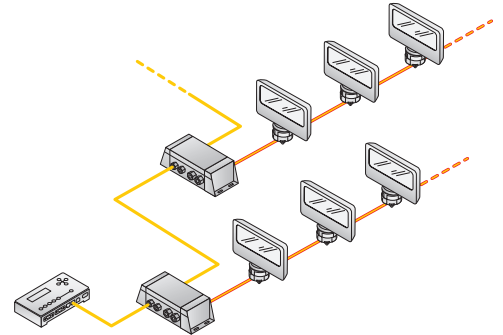
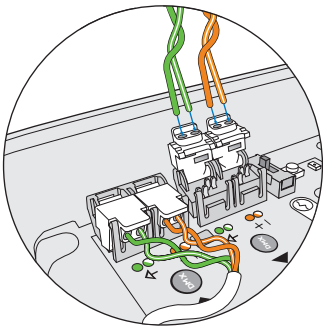
1. Cut a sufficient length of CAT 5e or better cable to connect the first Data Enabler Pro device in a series with the next.
2. If necessary, cut both ends of the cable jacket to expose the wire pairs. Do not strip the wire pairs.

The Brown, Brown/White, Blue, and Blue/White wires are not used and should be capped and turned back.

3. Run one end of the cable through a cable connector installed on the output side of the first Data Enabler Pro device in the series (the side with two openings).
4. Locate the DMX output pivot connectors inside the Data Enabler Pro housing. Open both pivot connectors.

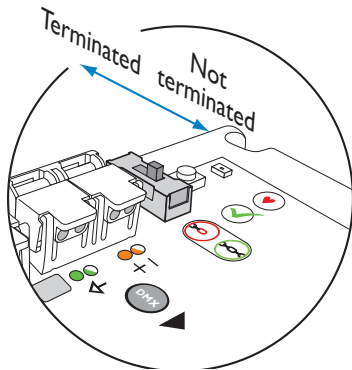
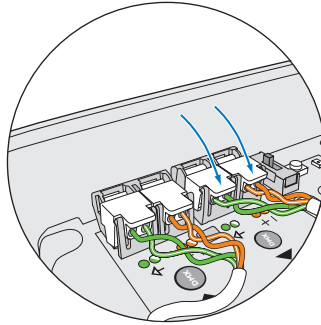
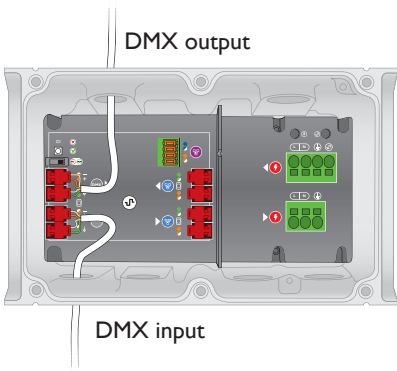


5. From right to left, following the wire color codes printed on the data board, insert the Orange/White, Orange, Green/White, and Green wires into the pivot connector's wire entry holes.



\* IDC connectors accept wire sizes from 0.326 to 0.129 mm<sup>2</sup> (22 to 26 AWG).

6. While holding the wires firmly in place, push down on the pivot connectors until they click shut.

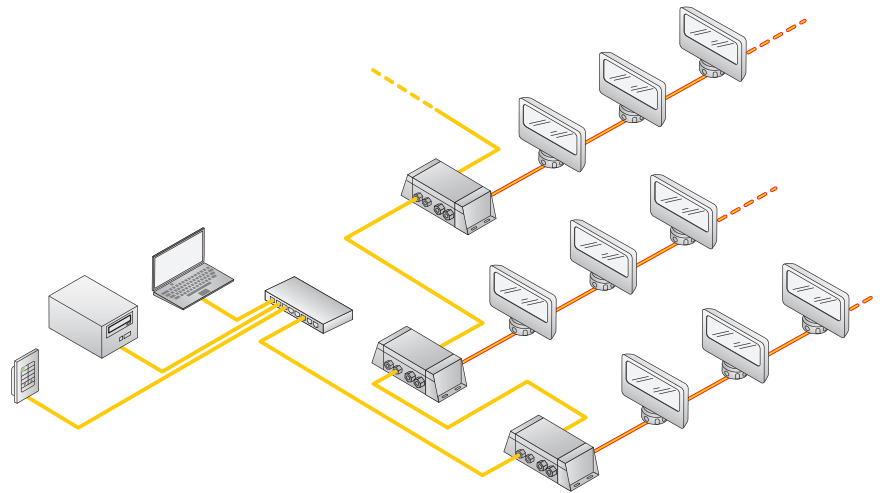
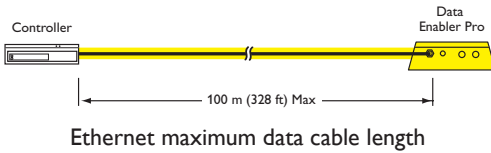


7. Run the free end of the cable to the next Data Enabler Pro device in the series, and make DMX data input connections as described in the previous section.
8. Repeat for each Data Enabler Pro device in the series.
9. Terminate the last Data Enabler Pro device in the series using the termination switch.

### Series Connection Using Ethernet

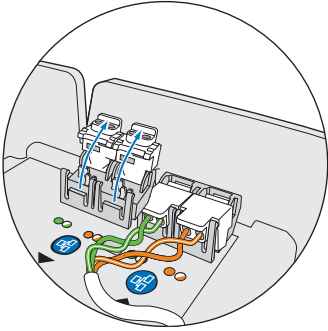
You can connect up to 15 Data Enabler Pro devices in series. Use additional Ethernet switch ports to connect additional Data Enabler Pro devices to your network.

In Ethernet networks, maximum run lengths for data cables are 100 m (328 ft) between Ethernet devices without a repeater.

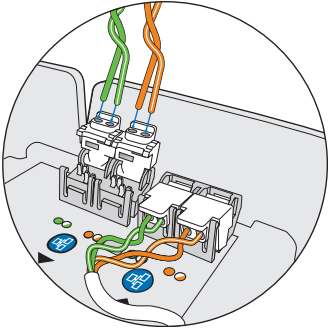


1. Cut a sufficient length of CAT 5e or better cable to connect the first Data Enabler Pro device in a series with the next.
2. If necessary, cut both ends of the cable jacket to expose the wire pairs. Do not strip the wire pairs.  
The Brown, Brown/White, Blue, and Blue/White wires are not used and should be capped and turned back.
3. Run one end of the cable through a cable connector installed on the output side of the first Data Enabler Pro device in the series (the side with two openings).

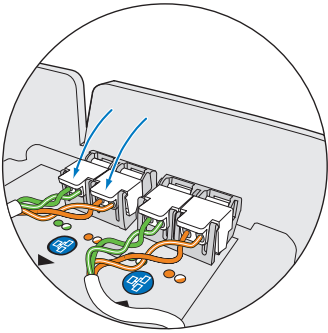
4. Locate the Ethernet output pivot connectors inside the Data Enabler Pro housing.  
Open both pivot connectors.



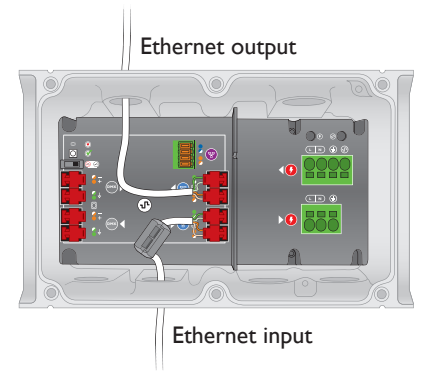
5. From right to left, following the wire codes printed on the data board, insert the Orange/White, Orange, Green/White, and Green wires into the pivot connector's wire entry holes.



6. While holding the wires firmly in place, push down on the pivot connectors until they click shut.

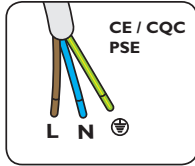
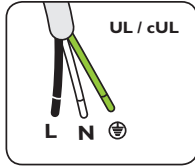
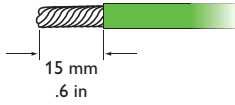


7. Run the free end of the cable to the next Data Enabler Pro device in the series, and make Ethernet data input connections as described in the previous section.
8. Repeat for each Data Enabler Pro device in the series.

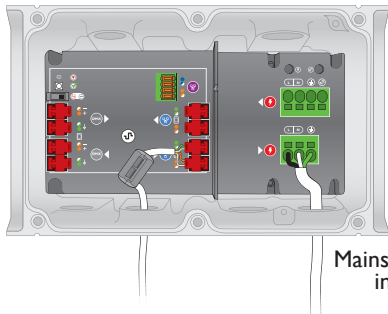


## Make Mains Voltage Connections

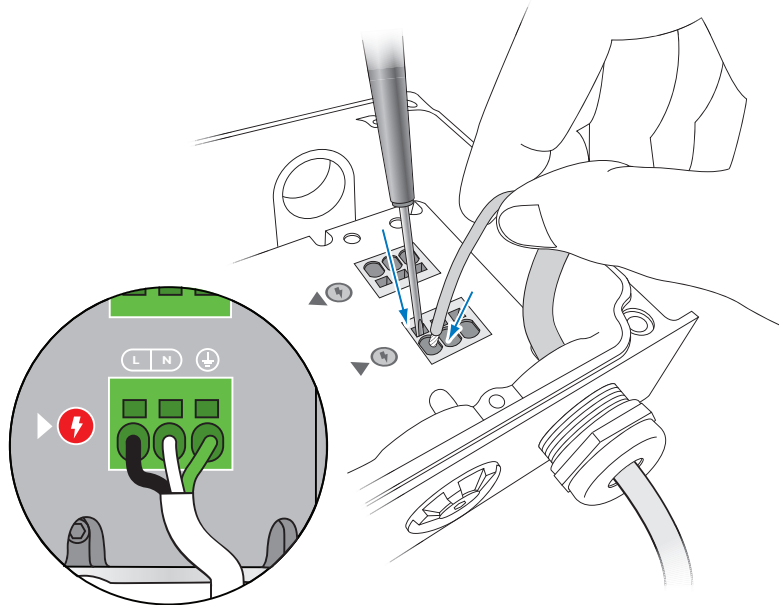
1. Run the mains voltage power cable through a cable connector installed on the input side of the Data Enabler Pro housing (the side with the four openings). Pull at least 127 mm (5 in) of wire into the housing.
2. Strip 15 mm (0.6 in) of insulation from the wires. If using stranded wire, twist each wire tight to secure the wire threads.
3. Locate the mains voltage 3-wire PC terminal block connector inside the Data Enabler Pro housing.
4. Securely install line, neutral, and ground in the terminal block:
  - Insert a small flathead screwdriver in the slot above a wire entry hole.
  - Firmly insert the correct wire in the wire entry hole.
  - Remove the screwdriver.



\* PC terminal block connectors accept recommended wire sizes from 8.37 to 0.823 mm<sup>2</sup> (8 to 18 AWG).



Mains voltage input



# Make Luminaire Cable Connections

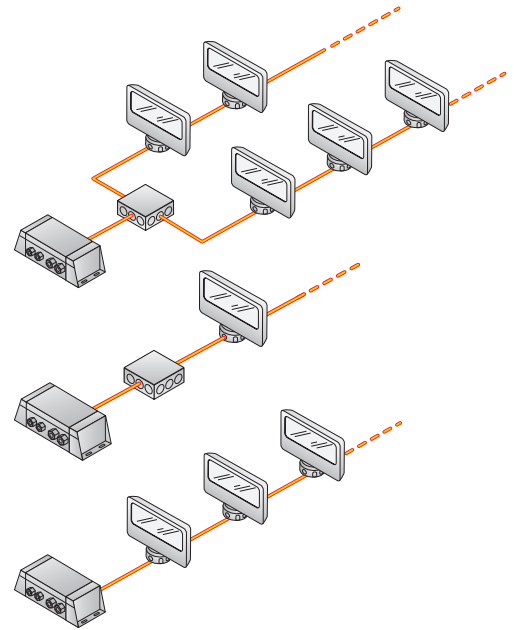
Philips Color Kinetics intelligent LED luminaires that use Data Enabler Pro either have a detachable leader cable with flying leads, or an integrated power/data cable. Leader cables range from 3 m (10 ft) to 18.3 m (60 ft), while integrated power/data cables can be as long as 3.7 m (12 ft) or as short as 152 mm (6 in).

Luminaires with integrated cables, such as ColorBlast Powercore and ColorBurst Powercore, are installed to junction boxes. For runs of luminaires installed in series, a lead wire is run from the first junction box to Data Enabler Pro. For luminaires installed in parallel (star configuration), a lead wire is run from a common junction box to Data Enabler Pro.

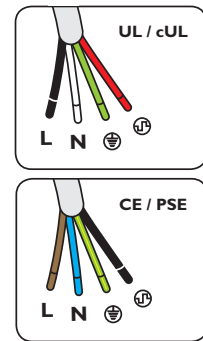
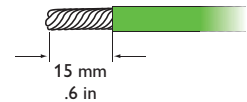
Luminaires with detachable leader cables, such as ColorGraze Powercore, iColor Cove MX Powercore, and iColor Accent Powercore, can be installed in single runs by connecting the leader cable directly to Data Enabler Pro. Luminaires in the run are connected together by means of integrated end-to-end connectors or jumper cables. Multiple runs of luminaires can also be connected in parallel by connecting a lead wire from a common junction box to a Data Enabler Pro.

For luminaires that do not use leader cables and jumper cables, use a sufficient length of 4-conductor copper wire to connect luminaires to each other and to Data Enabler Pro. Standard 3.31 mm<sup>2</sup> (12 AWG) stranded wire is recommended, but the wiring you use depends on local electrical codes.

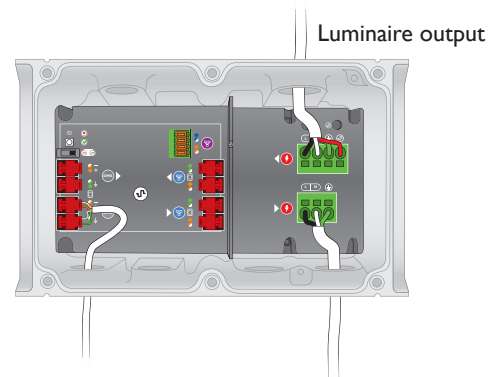
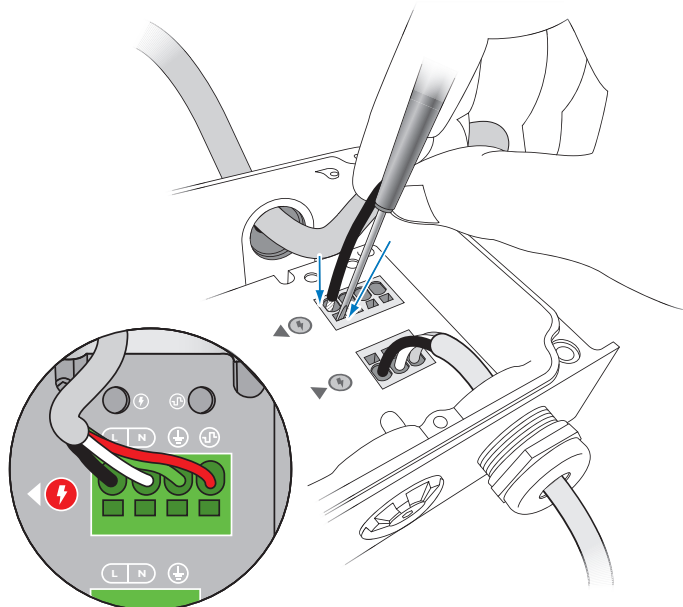
1. Run a leader cable from a run of luminaires, or a lead wire from a junction box, through a cable connector installed on the output side of the Data Enabler Pro housing (the side with two openings). Pull at least 152 mm (6 in) of wire into the housing.
2. Strip 15 mm (0.6 in) of insulation from the wires. If using stranded wire, twist each wire tight to secure the wire threads.
3. Locate the luminaire cable 4-wire PC terminal block connector inside the Data Enabler Pro housing.
4. Securely install line, neutral, ground, and data in the terminal block:
  - Insert a small flathead screwdriver in the slot above a wire entry hole.
  - Firmly insert the correct wire in the wire entry hole.
  - Remove the screwdriver.



\* eW and iColor Accent MX Powercore accept direct Ethernet data input. Use the separate 4-wire IDC terminal block connector for Ethernet data output to eW and iColor Accent MX Powercore, as described in the next section.

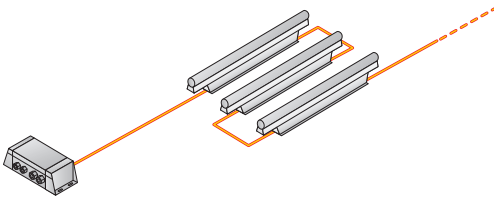


\* PC terminal block connectors accept recommended wire sizes from 8.37 to 0.823 mm<sup>2</sup> (8 to 18 AWG).

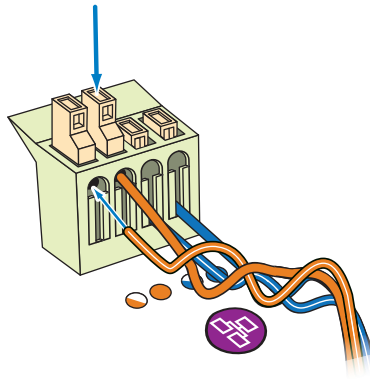


### Luminaire Cable Connection for eW Accent MX Powercore and iColor Accent MX Powercore

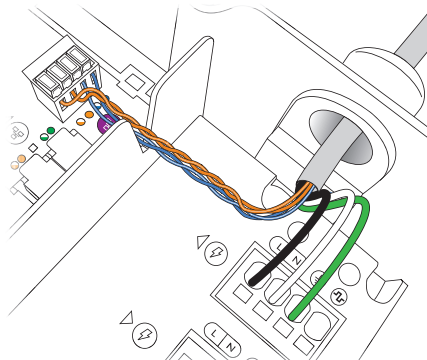
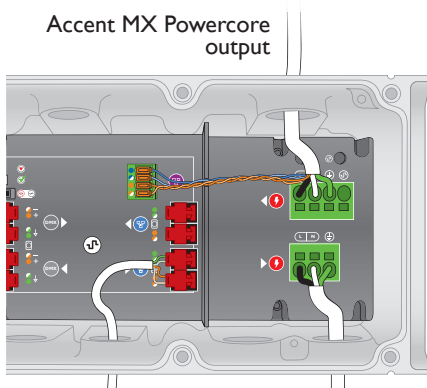
Data Enabler Pro includes a separate 4-wire IDC terminal block connector for Ethernet data output to eW and iColor Accent Powercore luminaires, which directly accept Ethernet input. Leader cables for eW and iColor Accent Powercore bundle data and power wires within the same wire jacket.



1. Run an eW or iColor Accent Powercore leader cable through a cable connector installed on the output side of the Data Enabler Pro housing (the side with two openings).
2. Strip off a sufficient length of the cable jacket to connect the data wires to the IDC terminal block on the data board and the power wires to the luminaire cable PC terminal block on the power board.
2. Strip 15 mm (0.6 in) of insulation from the power wires. If using stranded wire, twist each wire tight to secure the wire threads.
3. Connect the data wires to the IDC terminal block:
  - Using your fingers or a small tool, lift the four punch-down connectors.
  - From right to left, following the wire codes printed on the data board, insert the Orange/White, Orange, Blue/White, and Blue wires into the wire entry holes on the front of the connector.
  - Push down each punch-down connector until they snap firmly in place.



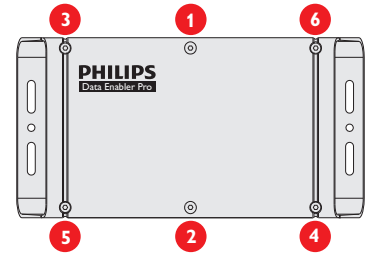
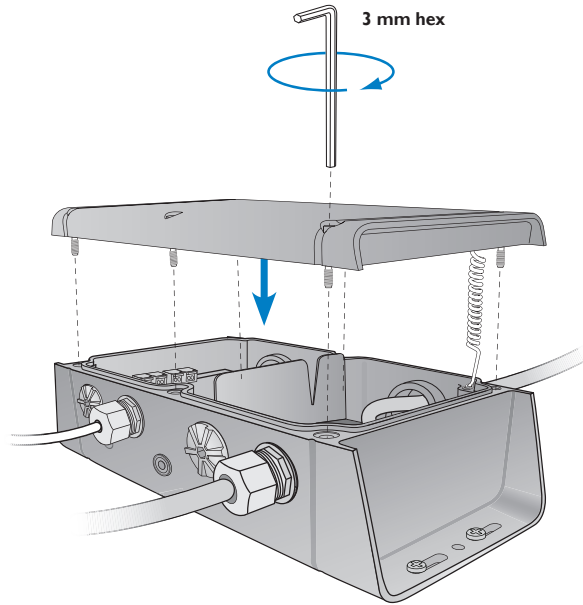
4. Securely install line, neutral, and ground in the luminaire cable 4-wire terminal block:
  - Insert a standard flathead screwdriver in the slot above a wire entry hole.
  - Firmly insert the correct wire in the wire entry hole. (Leave the data position empty.)
  - Remove the screwdriver.



## Secure Cover

Once you have finished connecting all data and power inputs and outputs, secure the Data Enabler Pro cover.

1. Seat the cover on the Data Enabler Pro housing.
2. Using the included 3 mm hex wrench, tighten the housing cover's six captured screws, in the order indicated in the diagram in the margin.
3. Torque each screw to approximately 1.8 Nm (16 in-lb).



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