

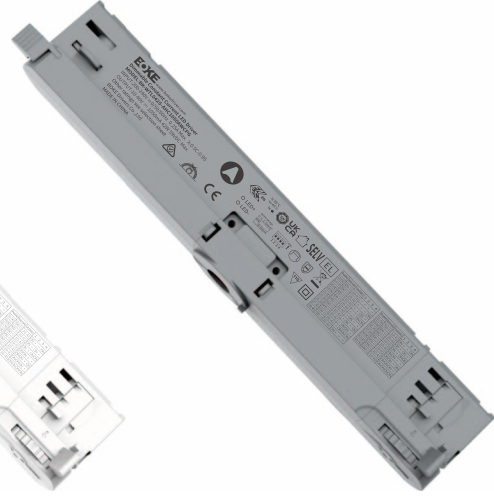
AC integrated track dimmable driver
WTL(S) Series suffix WCPx(Casambi Wireless)



Black-RAL9011



White-RAL9010



Grey-RAL7040

Features

- Integrated Casambi wireless module for the Casambi wireless ecosystem
- Support Casambi Wireless Long Range(LR) mode network
- 16-level current output can be realized by DIP-switch
- Supports quick construction of Casambi networks with up to 250 devices
- Casambi wireless mesh networking, stable work
- Support for over-the-air firmware updates with Casambi APP
- Compatible track system with mainstream brands and models
- Black, white or grey housing are optional
- Optional accessory M10*8 for mounting the luminaire head
- Soft dimming and flicker-free at any brightness, meets the new requirements of ErP certification
- Using HPC patented technology at any dimming level, the brightness between lights is same
- High PF, low THD
- SELV and Class II design, suitable for AC integrated track
- Compliance with CE, ENEC, UKCA, RCM, EL and other certifications
- IP20 protection grade, indoor use
- Nominal life-time up to 100,000 h
- 5.5-year guarantee

Functions

- Support central emergency application
- Support self-contained emergency application
- Casambi Wireless control system
- Over temperature protection

Suitable for lights

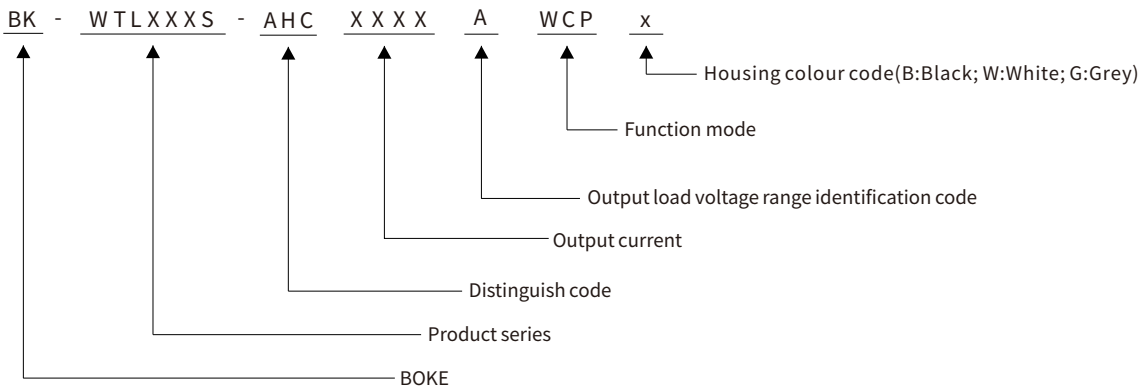
- Suitable for lights with AC integrated track driver

Typical applications

- LED indoor lighting
- LED office lighting
- LED commercial lighting



Model coding rules of WTL(S) series



Function list

Model	Suffix	DIP switch	EL (DC input)	Wired dimming	Advanced functions			Device Configuration
				Casambi Wireless	AOC	EL (configurable)	CLO	NFC interfaces
BK-WTL042S-AHC	WCPB WCPW WCPG	√	√	√				
	WCNB WCNW WCNG		√	√	√	√	√	√

*The description in this specification is only applicable to the products with the suffix WCPB/WCPW/WCPG and the model are WTL042S-AHC.

Model list

Model	Input voltage	Output power	Output voltage	Output current	Dimension
BK-WTL042S-AHC1050AWCPB BK-WTL042S-AHC1050AWCPW BK-WTL042S-AHC1050AWCPG	200-240VAC/DC	42W MAX.	10-42VDC	0.3-1.05A	L235*W42*H31mm
BK-WTL042S-AHC1050AWCNB BK-WTL042S-AHC1050AWCNW BK-WTL042S-AHC1050AWCNG	200-240VAC/DC	42W MAX.	10-42VDC	0.15-1.05A	L235*W42*H31mm

*The description in this specification is only applicable to the products with the suffix WCPB/WCPW/WCPG and the model are WTL042S-AHC.

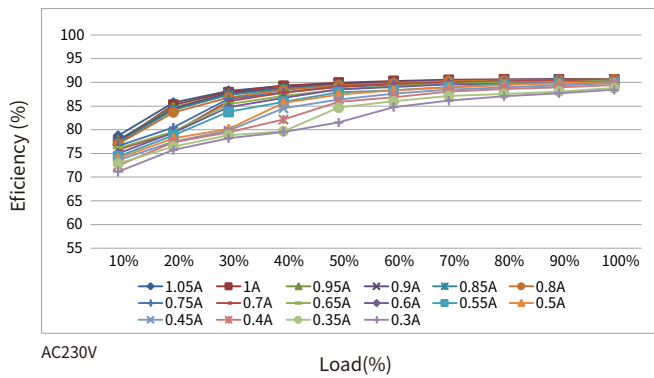
Technical data

Product model	BK-WTL042S-AHC1050AWCPB	BK-WTL042S-AHC1050AWCPW	BK-WTL042S-AHC1050AWCPG
Housing colour	Black	White	Grey
Output parameters			
Regulation method	Constant Current		
Rated output current range	0.3-1.05A,see the DIP-switch for details		
Rated output voltage range	10-42VDC,see the DIP-switch for details		
Rated output power	42W Max,see the DIP-switch for details		
Output current adjustment	DIP S.W(16 levels)		
Output current ripple(typ.)	± 5%(≤120Hz)		
Output current accuracy	± 5%		
Linear regulation	± 5%		
Load regulation	± 5%		
No load output voltage	59VDC		
Flicker-free(typ.)	Flickering percent(IEEE 1789)=0.203%(100Hz), Flicker index(IEEE 1789)=0.001(100Hz), Pst LM = 0.015, SVM = 0.004, (The above parameters are obtained from testing the panel lights)		
Input parameters			
Rated input voltage range	200-240VAC 200-240VDC		
Input voltage range	180-264VAC 180-264VDC		
Input votage shock	<380 V AC		
Input current	<0.25A (Rated input voltage)		
Input frequency	0/50/60Hz		
Input PF/Input DF(typ.)	PF: 0.98,DF:0.99 , see the electrical values below for details		
Input THD(typ.)	10% , see the electrical values below for details		
Efficiency(typ.)	90.5% , see the electrical values below for details		
In-rush current(typ.)	1.86A peak ,68us duration(50 % Ipeak), see the description below for details		
Start/Switchover/Turn off(typ.)	0.75s(AC start),0.75s(DC start),0.3s(AC/DC switchover),0.5s(Turn off)		
Switching cycles	> 100,000 switching cycles		
Power consumption(typ.)	Full load(Pin):46.4W, No load(Pno): N/A, On stand-by(Psb) : <0.5W, Network stand-by(Pnet) : N/A		
Safety			
Withstand voltage	I/P-O/P:3750VAC		
Mains surge capability	L-N:2KV(Performance criterion:B)(90°/270°, 5 times each with an interval of 60s)		
Leakage current(typ.)	0.26mA		
Isolation resistance	I/P-O/P:100MΩ/500Vdc/25°C/70%RH		
Wireless features			
Control system	Casambi Ready		
Bluetooth version	Bluetooth 5.3		
Transmission power	+8 dBm Max.		
Reception sensitivity	-96 dBm		
Frequency range	2.402 – 2.480 GHz		
Dimming output			
Dimming range	0.1%-100%(Minimum current:1.05mA)		
Dimming drive mode	AM+PWM(<10%)		
Emergency support			
Central emergency system	Supported		
Self-contained emergency	Supported		
Environment & Life time			
Operating temperature	Ta=-20-45°C		
Case temperature	Tc=85°C		
Operating humidity	5-85% RH, non-condensing		
Storage temp./humidity	-40-80°C, 5-85% RH, non-condensing		
IP grade	IP20		
MTBF	500,000H,MIL-HDBK-217F(25°C)		
Life-time	Nominal life-time up to 100,000 h, see the description below for details		
Vibration resistant	10~500Hz,5G 12min./1cycle,period for 72min. each along X,Y,Z axes		
Acoustic Noise	<25dB(30cm, Normal operation)		
Environmental protection	RoHS		
Certifications and standards			
Compliance certification	CE, ENEN, UKCA, RCM, EL		
Safety	EN 61347-1,EN 61347-2-13,EN 62493		
EMC	EN IEC 55015,EN 61547,EN IEC 61000-3-2,EN 61000-3-3,ETSI EN 301 489-1,ETSI EN 301 489-17,ETSI EN 301 489-3		
EL	Compatible IEC 61347-2- 13 Annex J, compatible with EN 60598-2-22 and EN 50172		
RF	EN 62479,EN 50663,ETSI EN 300 328,ETSI EN 300 330		

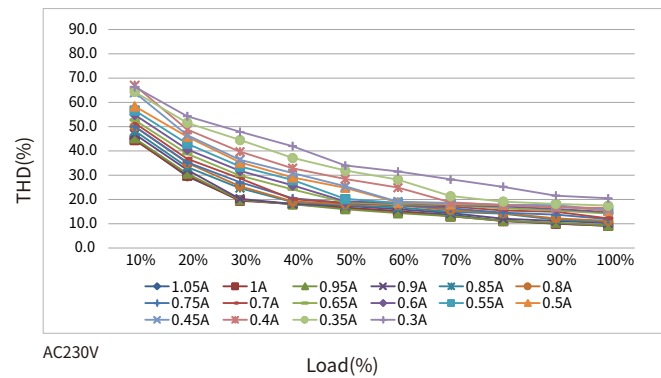
Electrical values

BK-WTL042S-AHC

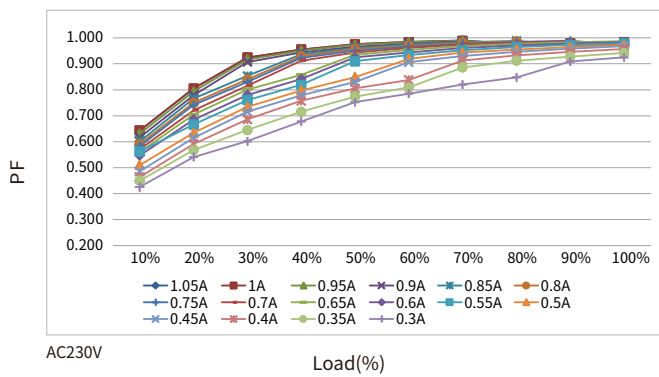
Efficiency vs Load



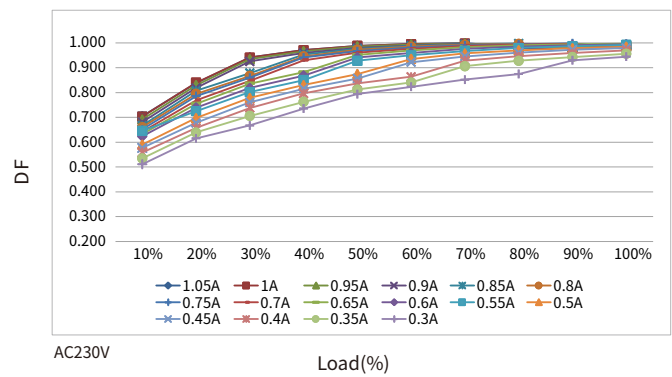
THD vs. Load



Power factor vs. Load

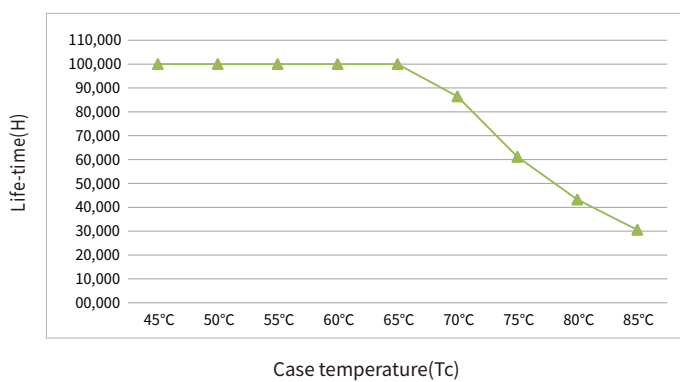


Displacement factor vs. Load



Expected life-time

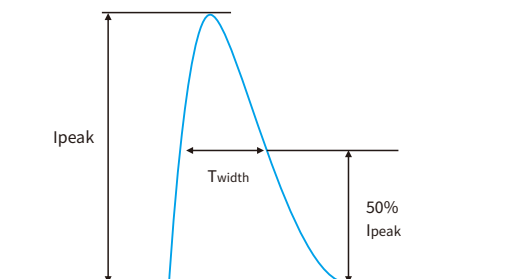
Life-time vs. case temperature



- The life-time of the LED driver is shown in the figure above (calculated based on the 90% survival rate).
- The relation of tc to ta temperature depends also on the luminaire design.

Surge

Model	Ipeak	Twidth	Condition	Relative number of MCB/pcs														
				B10	B13	B16	B20	B25	C10	C13	C16	C20	C25	D10	D13	D16	D20	D25
BK-WTL042S-AHC	1.86A	68us	AC 230V, Full load, Cold start, $T_a \leq 30^\circ\text{C}$, MCB is not installed side by side	38	50	62	77	96	38	50	62	77	96	38	50	62	77	96



Remarks

- The number of drives mounted under different MCBs in the table is the maximum value. Please do not exceed this number during installation.
- Calculation uses typical values from ABB series S200 as a reference.
- Different brands and models of miniature circuit breakers, the number of drives mounted will be slightly different.
- If the ambient temperature of the MCB installation exceeds 30°C or multiple MCBs are installed side by side, the number of drives mounted will be reduced and the calculation needs to be recalculated.
- Electrician's usually consider Type B for household lighting and Type C for commercial lighting application.

Functions

Output over temperature

- When the operating temperature exceeds the over temperature protection point inside the power supply IC, the power supply enters protection state such as output derating, output hiccup or output shutdown. After the external temperature is normal, restart and resume operation.

Driver restart method

- Through the AC input: disconnect the AC of the driver and power it again.

Insulation between circuits

Isolation	Input	Output	Case
Input	-	Double	Double
Output	Double	-	Basic
Case	Double	Basic	-

Label

BK-WTL042S-AHC

www.bokedriver.com

Dimmable Constant Current LED Driver

MODEL: BK-WTL042S-AHC1050AWCPW

INPUT: 200-240V $\approx$ 0.5/50/60Hz 0.25A Max. λ : 0.5C-0.9S

OUTPUT: 10-40V $\approx$ 1050mA 42W 59VDC Max.

Other ratings see selection sheet

BOKE Drivers Co., Ltd.

MADE IN CHINA

Po(W)	Io(mA)	Vo(Vdc)	1	2	3	4
12.60	300	10-42	-	-	-	-
14.70	350	10-42	-	-	-	ON
16.80	400	10-42	-	-	ON	-
18.90	450	10-42	-	-	ON	ON
21.00	500	10-42	-	ON	-	-
23.10	550	10-42	-	ON	ON	-
25.20	600	10-42	-	ON	ON	ON
27.30	650	10-42	-	ON	ON	ON
29.40	700	10-42	ON	-	-	-

Po(W)	Io(mA)	Vo(Vdc)	1	2	3	4
31.50	750	10-42	ON	-	-	ON
33.60	800	10-42	ON	-	ON	-
35.70	850	10-42	ON	-	ON	ON
37.80	900	10-42	ON	ON	-	-
39.90	950	10-42	ON	ON	ON	-
42.00	1000	10-42	ON	ON	ON	ON
42.00	1050	10-40	ON	ON	ON	ON

www.bokedriver.com

Dimmable Constant Current LED Driver

MODEL: BK-WTL042S-AHC1050AWCPB

INPUT: 200-240V $\approx$ 0.5/50/60Hz 0.25A Max. λ : 0.5C-0.9S

OUTPUT: 10-40V $\approx$ 1050mA 42W 59VDC Max.

Other ratings see selection sheet

BOKE Drivers Co., Ltd.

MADE IN CHINA

Po(W)	Io(mA)	Vo(Vdc)	1	2	3	4
12.60	300	10-42	-	-	-	-
14.70	350	10-42	-	-	-	ON
16.80	400	10-42	-	-	ON	-
18.90	450	10-42	-	-	ON	ON
21.00	500	10-42	-	ON	-	-
23.10	550	10-42	-	ON	ON	-
25.20	600	10-42	-	ON	ON	ON
27.30	650	10-42	-	ON	ON	ON
29.40	700	10-42	ON	-	-	-

Po(W)	Io(mA)	Vo(Vdc)	1	2	3	4
31.50	750	10-42	ON	-	-	ON
33.60	800	10-42	ON	-	ON	-
35.70	850	10-42	ON	-	ON	ON
37.80	900	10-42	ON	ON	-	-
39.90	950	10-42	ON	ON	ON	-
42.00	1000	10-42	ON	ON	ON	ON
42.00	1050	10-40	ON	ON	ON	ON

www.bokedriver.com

Dimmable Constant Current LED Driver

MODEL: BK-WTL042S-AHC1050AWCPG

INPUT: 200-240V $\approx$ 0.5/50/60Hz 0.25A Max. λ : 0.5C-0.9S

OUTPUT: 10-40V $\approx$ 1050mA 42W 59VDC Max.

Other ratings see selection sheet

BOKE Drivers Co., Ltd.

MADE IN CHINA

Po(W)	Io(mA)	Vo(Vdc)	1	2	3	4
12.60	300	10-42	-	-	-	-
14.70	350	10-42	-	-	-	ON
16.80	400	10-42	-	-	ON	-
18.90	450	10-42	-	-	ON	ON
21.00	500	10-42	-	ON	-	-
23.10	550	10-42	-	ON	ON	-
25.20	600	10-42	-	ON	ON	ON
27.30	650	10-42	-	ON	ON	ON
29.40	700	10-42	ON	-	-	-

Po(W)	Io(mA)	Vo(Vdc)	1	2	3	4
31.50	750	10-42	ON	-	-	ON
33.60	800	10-42	ON	-	ON	-
35.70	850	10-42	ON	-	ON	ON
37.80	900	10-42	ON	ON	-	-
39.90	950	10-42	ON	ON	ON	-
42.00	1000	10-42	ON	ON	ON	ON
42.00	1050	10-40	ON	ON	ON	ON

Laser engraving technology

DIP-switch & output current

BK-WTL042S-AHC

Output			1	2	3	4
Prated(w)	Irated(mA)	Voltage(Vdc)				
12.60	300	10-42	--	--	--	--
14.70	350	10-42	--	--	--	ON
16.80	400	10-42	--	--	ON	--
18.90	450	10-42	--	--	ON	ON
21.00	500	10-42	--	ON	--	--
23.10	550	10-42	--	ON	--	ON
25.20	600	10-42	--	ON	ON	--
27.30	650	10-42	--	ON	ON	ON
29.40	700	10-42	ON	--	--	--
31.50	750	10-42	ON	--	--	ON
33.60	800	10-42	ON	--	ON	--
35.70	850	10-42	ON	--	ON	ON
37.80	900	10-42	ON	ON	--	--
39.90	950	10-42	ON	ON	--	ON
42.00	1000	10-42	ON	ON	ON	--
42.00	1050 ★	10-40	ON	ON	ON	ON

- Remarks:
1. ★ It means that this item is the factory default current.
2. -- It means that this channel is OFF.

Installation

Mechanical dimensions

Unit:mm

WTL042S-AHC

Housing colour (optional)

number	colour
1	Black-RAL 9011
2	White-RAL 9010
3	Grey-RAL 7040

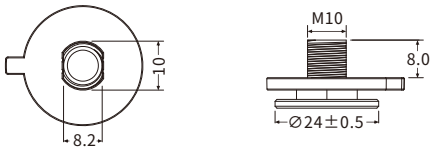
OUTPUT

number	function	colour
1	LED+	red
2	LED-	black

Output wire
0.2-0.75mm²
8-9mm

Optional accessories

- Optional accessories for fixed the luminaire
- Optional specifications M10*8
- Together with M10 nuts



Black-RAL 9011 White-RAL 9010 Grey-RAL 7040

Note: Accessories need to be purchased separately

order number	specification
B-M1008W-001	M10*8/White
B-M1008B-001	M10*8/Black
B-M1008G-001	M10*8/Grey

Adaptive Casambi network specification

- The driver supports use in both Evolution networks and Classic networks(recommend to use Evolution networks).
- Evolution networks support up to 250 nodes, while Classic networks support up to 127 nodes.
- Supports Casambi wireless Long Range (LR) mode network,supports LR device have longer coverage in all network modes.

Installation note

Hot plug-in

- When the function is not enabled, hot plug-in is not supported due to residual output voltage of $> 0\text{ V}$.
- If a LED load is connected the device has to be restarted.
- Restart can be achieved by re-powering the driver through the control interface.

Wiring guidelines

- All connections must be kept as short as possible to ensure good EMI behaviour.
- Mains leads should be kept apart from LED Driver and other leads (ideally 5 – 10 cm distance).
- Incorrect wiring can damage LED modules.

Replace LED module

1. Mains off
2. Wait more than 5 seconds
3. Remove LED module
4. Connect LED module again

Installation requirements

- The driver should preferably be installed in an environment without metal obstacles or without materials that severely weaken RF signals.
- Please do not place the driver in an environment completely surrounded by metal parts, as radio signals cannot pass through metal.
- The distance between driver should not exceed 40 meters; if there are partitions in between, the distance may be shortened,as shown in Figure 1.
- If there are many wireless communication devices (such as WiFi, or other Bluetooth devices) around the driver, the connection distance between two nodes will be greatly affected.
- Do not route cables near the antenna area of the driver (such as high-voltage input lines, LED power lines) to avoid signal interference.
- The driver should be kept at a certain distance from large metal objects; the recommended spacing should be $\geq 15\text{cm}$ to avoid signal interference .
- The driver should be kept at a certain distance from beams, walls, etc.; the recommended spacing should be $>15\text{cm}$ to avoid signal interference .
- The communication signal range of the driver depends on the surrounding environment, such as light fixtures, building structures, furniture, or people. Communication testing should be conducted during installation.
- The driver should be installed in a dry, acid-free, oil-free, fat-free environment.
- The ambient temperature of the driver should not exceed the value of T_a at any time.
- The driver should be installed in a compatible rail brand and model.

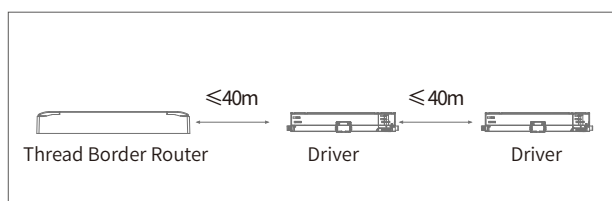
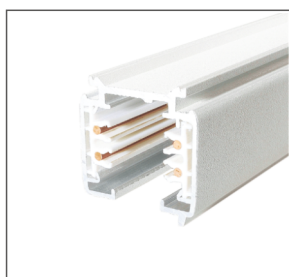


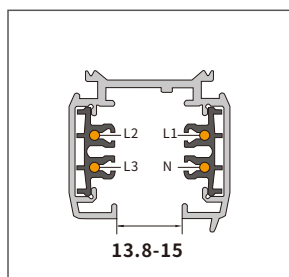
Figure 1

Compatible with the following guide rails

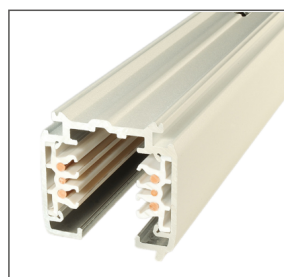
Number	Manufacturer	Model	System	Track casing colour
1	Global	XTS 4x00/XTSC 4x00 (x=1, 2, 3, 4) XTSC 6x00/XTSCF 6x00 (x=1, 2, 3, 4)	3P	black,white,grey
2	POWERGEAR	PRO-04x0/PRO-R4x0 (x=1, 2, 3) PRO-06x0/PRO-R6x0, (x=1, 2, 3)	3P	black,white,grey
3	JBD	H-04 JB-6-C	3P	black,white,grey
4	Stucchi	9000-1-ST	3P	black,white,grey



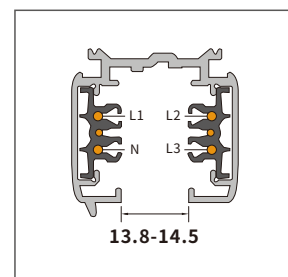
Four-wire track



dimensions and layout(Unit:mm)



Six-wire track



dimensions and layout(Unit:mm)

Installation Instruction

①

②

③

- Insert the driver into the track, noting the position of the mechanical point (A) and (B).

- Rotate of about 90° the lever of the cam until it reaches the locking position(C). To remove the driver, rotate the lever in the opposite direction.

- Select the phase you want to connect (L1, L2, or L3) through the phase selection wheel.

Packaging

Optional 1:

Product

Blister

5pcs*2layer=10pcs/CTN

Model	Product size	Weight	Blister size	Carton size	Qty/carton	N.W	G.W
WTL042S-AHC	L235*W42*H31mm	162g	L300*W251*H50mm	L320*W270*H130mm	10pcs	1.62KG	3.15KG

Optional 2:

Product

Packaging

13pcs*2boxes=26pcs/CTN

Model	Product size	Weight	Packaging size	Carton size	Qty/carton	N.W	G.W
WTL042S-AHC	L235*W42*H31mm	162g	L330*W240*H70mm	L345*W265*H170mm	26pcs	4.21KG	5.35KG

Additional information

- When the driver is used as an internal power supply for luminaires, re-evaluation of performance including temperature rise, conducted interference, radiated interference, surge immunity and electrostatic discharge (ESD) are required due to differences in luminaire structure and wiring. Ensure compliance with practical application requirements and stable & reliable operation of the driver.
- Unless otherwise specified, all specifications and parameters are measured under conditions of 230VAC input, 50Hz, full load and ambient temperature of 25°C.
- Product service life and MTBF values are for reference only and do not constitute a warranty statement.
- BOKE reserves the final right to interpret the above parameters. For further information, please send an email to info@bokedriver.com.
- The above information is subject to change without prior notice. Please ensure you use the latest version of the datasheet.