Fancom Lighting







PRODUCT APPLICATION MANUAL

GB2609030

fancom®
forward thinking

Introduction

Fancom offers a comprehensive range of solutions in the field of barn lighting for various sectors within livestock and mushroom cultivation. For optimal conditions in poultry houses, the perfect combination of technical functionality, the right light color, and good light distribution is necessary. The intensity and color of light, as well as the length of the day, influence the behavior and health of the birds. If you want to take good care your birds, it is important to find the right balance among these three factors.

Corax poultry lighting

The Fancom CORAX is designed to improve the performance and well-being of your flock. Its flicker-free light with an optimized spectrum and uniform distribution create a calm, natural environment where birds feel comfortable. That results in less stress, better eating and steady growth. Everything you need for a healthy and productive flock.

Due to import restrictions the IUL must be bought separately for each Corax light! Without IUL Corax cannot be connected.

Article Number	Description	
2881517	**IUL FOR CORAX FANCOM 7766 (7348)** - Connection box for Corax - 1 required per Corax light	
4881183	**Fancom Corax-Warm white 7976 (7815)** - Warm white - 48V dimmable - 1050 lm - 3000K	
4881184	**Fancom Corax-Warm white + Blue 7977 (7960)** - Warm white + blue light for catching - 48V dimmable - 1050 lm - 3000K	
4881182	**Fancom CORAX warm-white + Red 7975 (7963)** - Warm white + red light for calming layers - 48V dimmable - 1050 lm - 3000K	

4881180	**Fancom CORAX XL warm-white 7973 (7817)** - Warm white high output - 48V dimmable - 1750 lm - 3000K	
4881181	**Fancom CORAX XL warm-white + Blue 7974 (7961)** - Warm white high output + Blue catching light - 48V dimmable - 1750 lm - 3000K	
4881179	**Fancom CORAX DDS 8139 (7964)** - Dynamic daylight simulation - Warm white + Cold White + UVA - Control animal behavior with stepless color adjustment - Promote activity with cold white - Promote rest and calm with warm white - 3000K + 6500K + UVA	

Pica poultry lighting

Pica is a cost effective alternative poultry lighting system that meets the quality standards. Its specially designed for those who want to start with professional poultry lighting.

4881013	**Pica 7765 -7449** - Poultry Warm white - 240V dimmable - 6,3 W white - 775 lm - 3000K - Flicker free - Including cable	

Fortis Pig lighting

Fortis is an affordable LED tube lighting solution suitable for pig housing, as well as all working areas on the farm.

2881460	**Fortis 1,5m 5000K 20.5W-7637** - Cold white 5000K - 1,5 meters – 2 connectors - Flicker free - 2 – 100% dimmable - 3200lm	

4881148	**Fortis 1,2m 230v 3200Lm-7823** - Cold white 5000K - 1,2 meters – 2 connectors - Flicker free - 2 – 100% dimmable - 3200lm	
4881149	**Fortis 230V 3200Lm closed-7760** Pig cold white 5000K 1,5 meters – 1 connector	
4881150	**Fortis 230V 3200Lm closed-7822** Pig cold white 5000K 1,5 meters – 2 connectors	

Champi LED lighting

Champi LED has been specially developed to improve sight in mushroom houses. It is the ideal solution to change a traditionally lighted mushroom house into a modern and efficient LED lighted mushroom house

4881012	**CHAMPI LED - 7693 + 7711** - Glass with PVC shrink tube - Cold white 5000K - 240V - Incl. mounting parts and sleeve - 5200 lm - 40W	

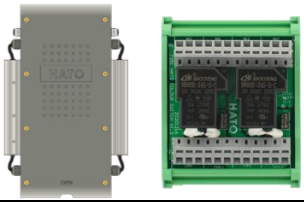
Features

- Performance and animal well-being is improved using animal-adapted lighting.
- Lower operating cost due to fewer energy costs, replacement costs and animal-related costs.
- Good poultry lighting increases egg production, better feed conversion rate and improves growth.
- Good pig lighting improves growth, boosts fertility and increases uniformity.
- Good mushroom lighting creates higher food safety by preventing glass from falling onto the mushrooms and it creates a pleasant environment for mushroom pickers.

Options

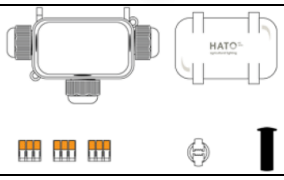
CORAX

Article Number	Description	
2881506	POWER PACK 148D320 + 1x smart E-fuse 2-6-2P CE – 7772 - 1x 320W 48V power supply - 2x 6A output - 1x B16 automatic fuse - 2x C16 automatic fuse - 8x B16/C16 + ICL-16R inrush current limiter - CE for Europe and Asia	
2881505	POWER PACK 248D640 + 2x smart E-fuse 2-6-2P CE – 7771 - 2x 320W 48V power supply - 4x 6A output - 1x C16 automatic fuse - 4x B16/C16 + ICL-16R inrush current limiter - CE for Europe and Asia	
4881157	POWER PACK 148D320 + 1x smart E-fuse 4-2-2P UL – 7770 - 1x 320W 48V power supply - 2x 6A output - 1x B16 automatic fuse - 2x C16 automatic fuse - 8x B16/C16 + ICL-16R inrush current limiter - UL for north America	
4881156	POWER PACK 248D640 + 2x smart E-fuse 4-2-2P UL – 7769 - 2x 320W 48V power supply - 4x 6A output - 1x C16 automatic fuse - 4x B16/C16 + ICL-16R inrush current limiter - UL for north America	
4881131	Multiple color dimmer with 2 knobs 7125	

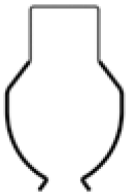
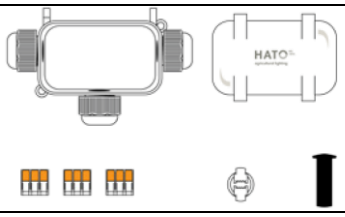
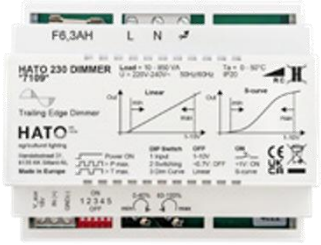
4881153	Light manager 7805 - Not required with Fancom One - Can turn simple ON/OFF Singal into programmable light dim curve including ramp - 1 light manager per dim group - When 2 switch times are required, 2 light managers are required per dim group - Up to 4 light managers can be connected to the device link - Powered by 2881406 power supply HDR-15-12 (sold separately)	
2881406	Power supply HDR-15-12 - 110~230V ac to 12V dc power supply - Used for powering 4881153 Light manager	
2881446	AtA Signal Converter 2 7252 - Turns 0-10V dim signal into 1-10V dim signal to make sure the light turns on when on minimum control - External manual control via potentiometer is possible - Manual mode via push button	
4881014	Color Switch 7251	
4881132 **4881029**	POWER PACK 1x48V + 1 Color Switch 7675 POWER PACK 2x48V + 2x Color Switch 7676	

2881406 **4881026**	Power supply 15W, 12V 6955 Power supply 15W, 24V 6932	

PICA

Article Number	Description	
2881467	AC Connection cable 0.6m 7570	
4881020	HATO junction box 5801	
4881022	HATO 230 Dimmer 7109	
4881023	Surge Protection Unit 7377	

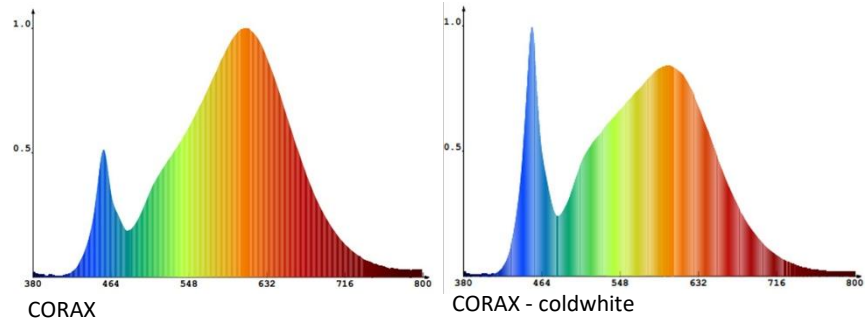
FORTIS

Article Number	Description	
4881142 4881143 2881463 4881144 4881145	AC Connection cable 0.5 m 7849 AC Connection cable 1.0 m 7850 AC Connection cable 2.0 m 7718 AC Connection cable 3.0 m 7719 AC Connection cable 15.0 m 7724	
2881470 4881146 4881147 2881466 2881464	AC Extension cable 1.0 m 7699 AC Extension cable 2.0 m 7725 AC Extension cable 2.5 m 7726 AC Extension cable 3.5 m 7728 AC Extension cable 4.0 m 7700	
2881462	End cap 7663	
2881461	Mounting clips 7698	
4881020	HATO Junction box 5801	
4881022	HATO 230 dimmer 7109	
4881023	Surge Protection Unit 7377	

Spectrum & light distribution

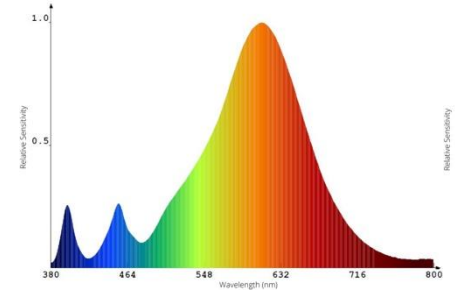
CORAX // Poultry lighting

Spectrum

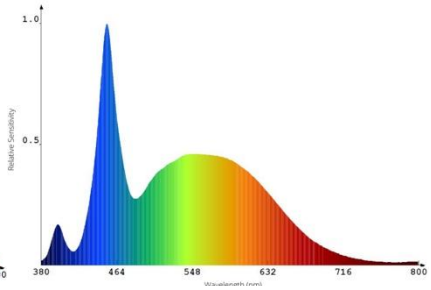


CORAX

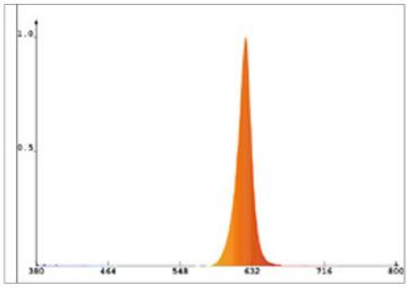
CORAX - coldwhite



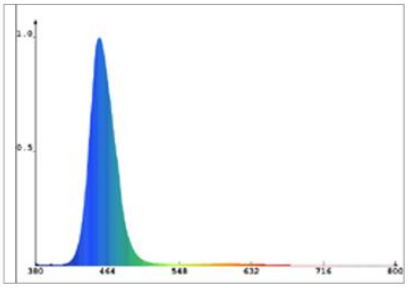
CORAX DDS - warmwhite



CORAX DDS - coldwhite

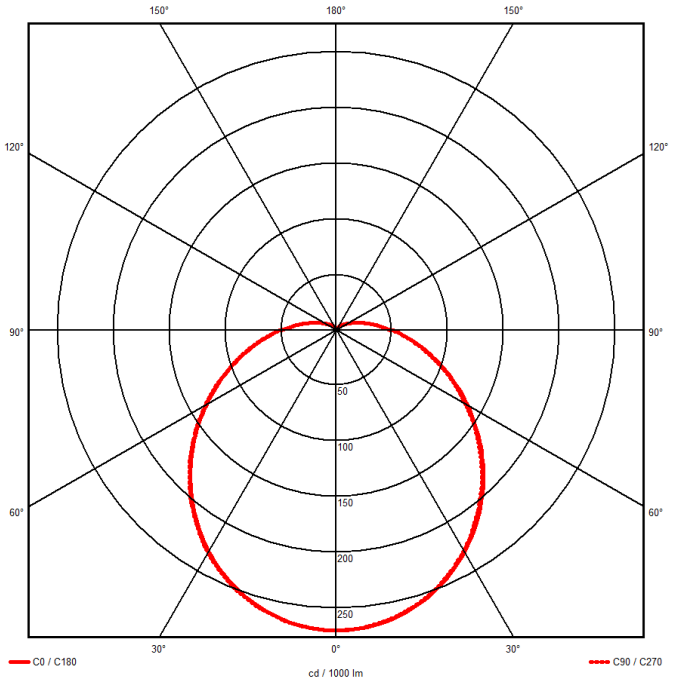


Red



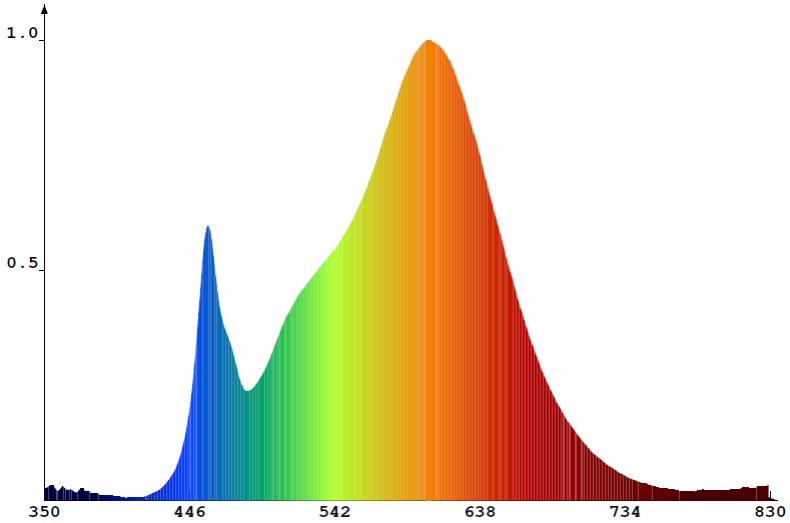
Blue

Light spread

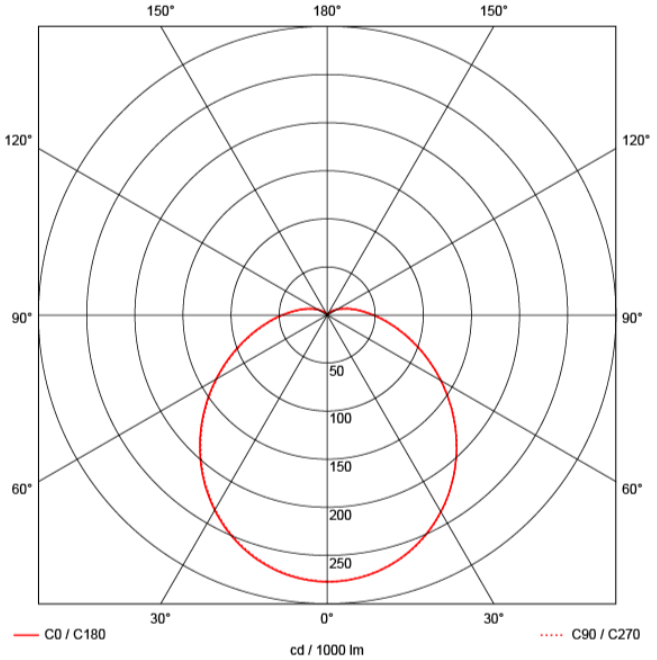


PICA // Poultry lighting

Spectrum

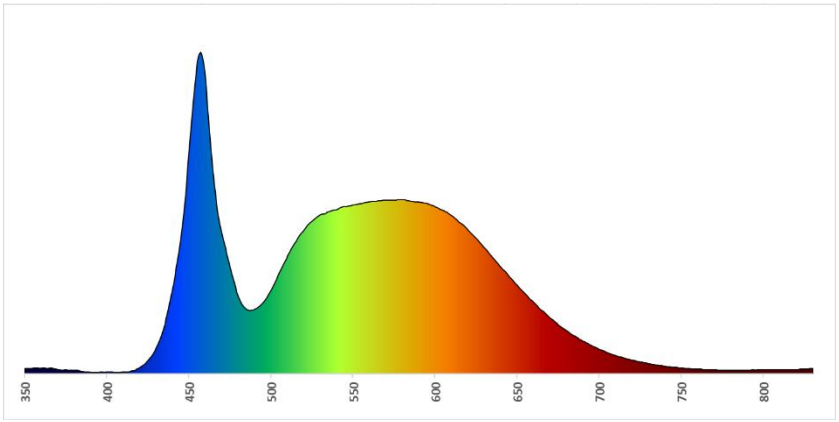


Light spread

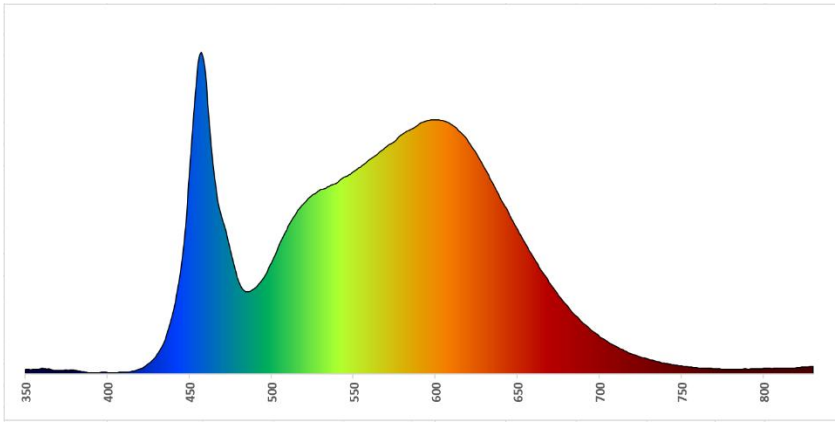


FORTIS // Pigs lighting

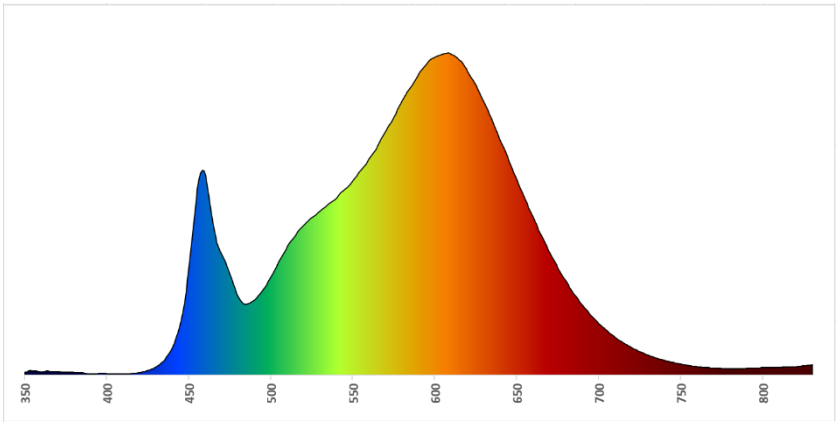
Spectrum



5000K Pigs

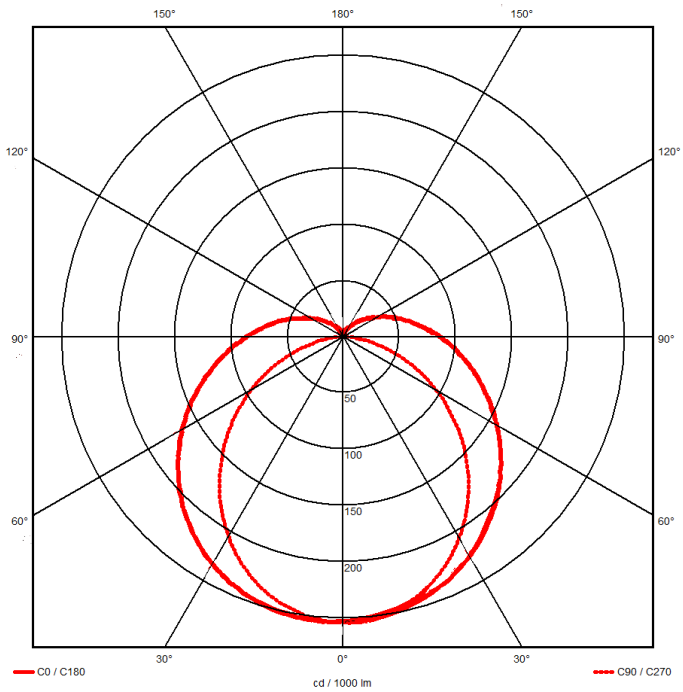


4000K Cattle



3000K Poultry

Light spread

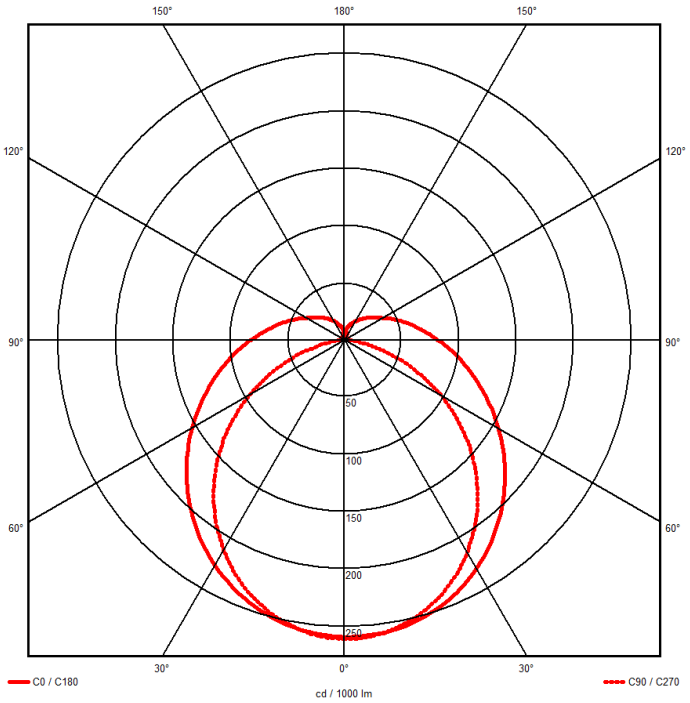


CHAMPI LED

Spectrum

There is no spectrum data available for the CHAMPI LED

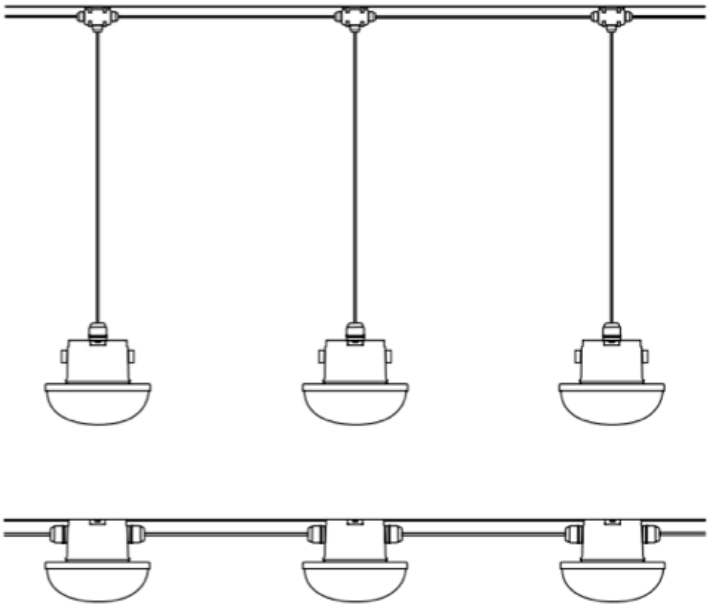
Light spread



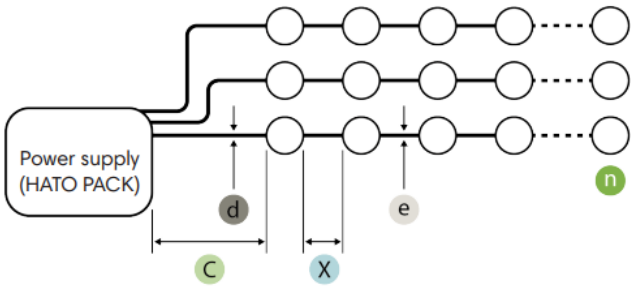
Installation examples

CORAX // Poultry lighting

Pre-wire (2.5mm²)
Pre-wiring is possible for CORAX installations. This means we connect all the cables exactly as defined in the light plan. The only thing you have to do is hang the lamps at the right place and connect them to the power supply. Scan QR code for more information.



Installation example



Lamp's line

Lamps

Installation details calculated with 6A smart fuse *(IEC/CE)*

	Cable between lamps e	Fuse outputs used	Distance between lamps X: 3m / 9.8ft	3.5m / 11.5ft	4m / 13.1ft	4.5m / 14.8ft	5m / 16.4ft	Max length connection cable [m / ft]	Cable thickness d: 2.5mm²	4mm²
3000K	2x 2.5mm²	1	23	22	21	19	19		18 m 58 ft	28 m 92 ft
	3x 2.5mm²	2	27	26	24	23	22		23 m 75 ft	37 m 119 ft
	4x 2.5mm²	2	30	29	27	26	25		28 m 90 ft	44 m 143 ft
	5x 2.5mm²	2	32	31	30	28	27		32 m 105 ft	51 m 167 ft
3000K (XL)	2x 2.5mm²	1	16	15	14	14	13		14 m 45 ft	22 m 72 ft
	3x 2.5mm²	2	19	18	17	16	15		18 m 57 ft	28 m 90 ft
	4x 2.5mm²	2	21	20	19	18	17		21 m 69 ft	34 m 109 ft
	5x 2.5mm²	2	23	22	21	20	19		25 m 80 ft	39 m 127 ft
3000K + RED	3x 2.5mm²	2x1	23	22	21	19	19		18 m 58 ft	28 m 92 ft
	5x 2.5mm²	2x2	27	26	24	23	22		23 m 75 ft	37 m 119 ft
DDS	3x 2.5mm²	2x1	25	23	22	21	20		19 m 60 ft	29 m 95 ft
	5x 2.5mm²	2x2	28	27	25	24	23		25 m 80 ft	39 m 126 ft
			n						C	

Installation details calculated with T3.15A fuse *(IEC/CE)*

	Cable between lamps (e)	Fuse outputs used	Distance between lamps (X) 3m / 9.8ft	3.5m / 11.5ft	4m / 13.1ft	4.5m / 14.8ft	5m / 16.4ft	Max length connection cable [m / ft] Cable thickness (d) 2.5mm²	4mm²
3000K/Blue	2x 2.5mm²	2	22	22	21	19	19	19m 61ft	30m 97ft
	4x 2.5mm²	4	30	28	26	24	24	28m 90ft	44m 143ft
3000K/Blue (XL)	2x 2.5mm²	2	12	12	12	13	13	19m 61ft	30m 97ft
	4x 2.5mm²	4	22	20	18	18	18	17m 54ft	26m 85ft

(n) (C)

Installation details calculated with 2A smart fuse *(UL/CSA)*

	Cable between lamps (e)	Fuse outputs used	Distance between lamps (X) 3m / 9.8ft	3.5m / 11.5ft	4m / 13.1ft	4.5m / 14.8ft	5m / 16.4ft	Max length connection cable [m / ft] Cable thickness (d) 14AWG	12AWG
3000K	2x 14AWG	1	13	13	13	13	13	29 m 93 ft	45 m 147 ft
	3x 14AWG	2	25	23	22	21	20	26 m 84 ft	41 m 134 ft
	4x 14AWG	3	27	26	25	24	23	31 m 100 ft	49 m 159 ft
	5x 14AWG	4	29	28	27	26	25	36 m 119 ft	58 m 188 ft
3000K (XL)	2x 14AWG	1	6	6	7	7	7	29 m 93 ft	45 m 147 ft
	3x 14AWG	2	14	15	15	15	14	23 m 73 ft	36 m 116 ft
	4x 14AWG	3	19	18	17	16	16	24 m 78 f	38 m 124 ft
	5x 14AWG	4	21	20	19	18	17	27 m 89 ft	43 m 141 ft
3000K + RED	3x 14AWG	2x1	13	13	13	13	13	29 m 93 ft	45 m 147 ft
	5x 14AWG	2x2	25	23	22	21	20	26 m 84 ft	41 m 134 ft
DDS	3x 14AWG	2x1	14	14	14	14	15	30 m 97 ft	47 m 155 ft
	5x 14AWG	2x2	26	25	24	22	21	27 m 87 ft	42 m 138 ft

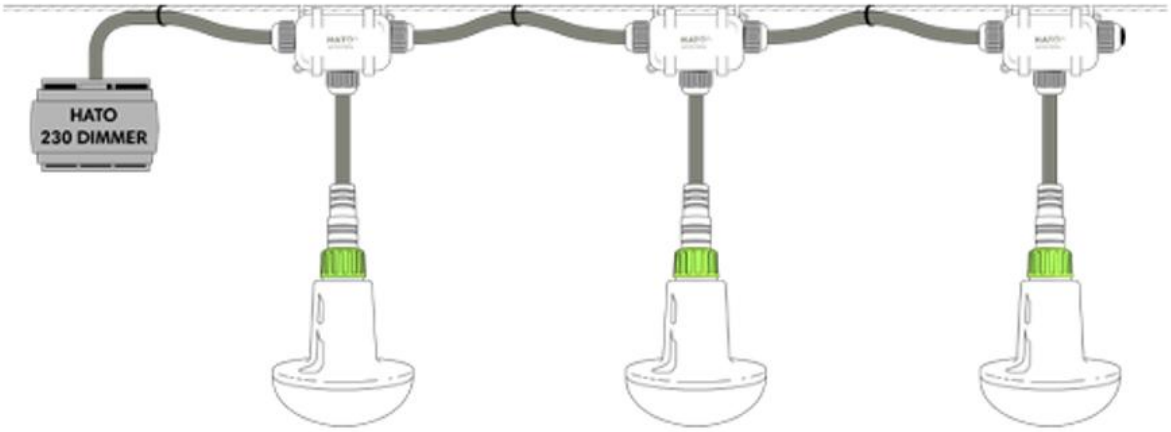
(n) (C)

Installation details calculated with F1.6A fuse *(UL/CSA)*

	Cable between lamps (e)	Fuse outputs used	Distance between lamps (X) 3m / 9.8ft	3.5m / 11.5ft	4m / 13.1ft	4.5m / 14.8ft	5m / 16.4ft	Max length connection cable [m / ft] Cable thickness (d) 14AWG	12AWG
3000K/Blue	2x 14AWG	2	10	10	10	10	10	37m 121ft	59m 192ft
	4x 14AWG	4	22	22	22	22	22	36m 116ft	57m 185ft
3000K/Blue (XL)	2x 14AWG	2	6	6	6	6	6	36m 118ft	57m 187ft
	4x 14AWG	4	12	12	12	12	12	28m 89ft	44m 142ft

(n) (C)

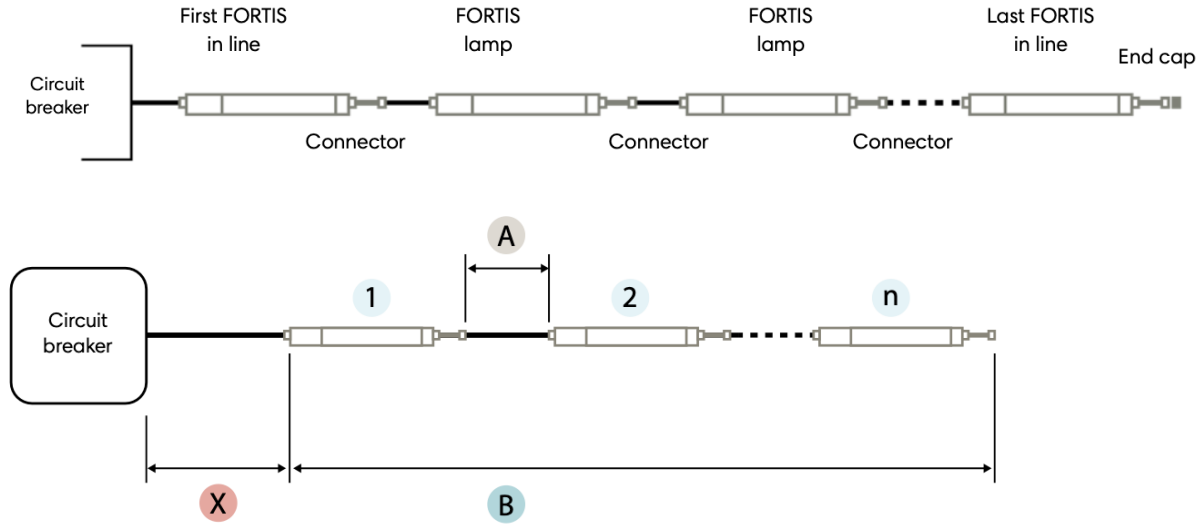
PICA // Poultry lighting



Minimum	**Maximum**
3 lamps	120 lamps

FORTIS // Pigs lighting

Example of standard installation
2 Connectors FORTIS



Inrush current (cold start): 5.2A
Inrush current time (T_{h50}): 100µS

X Maximum distance from circuit breaker: 15 m / 49ft

A Cable between lamps in standard installation

n Maximum number of lamps in a line*

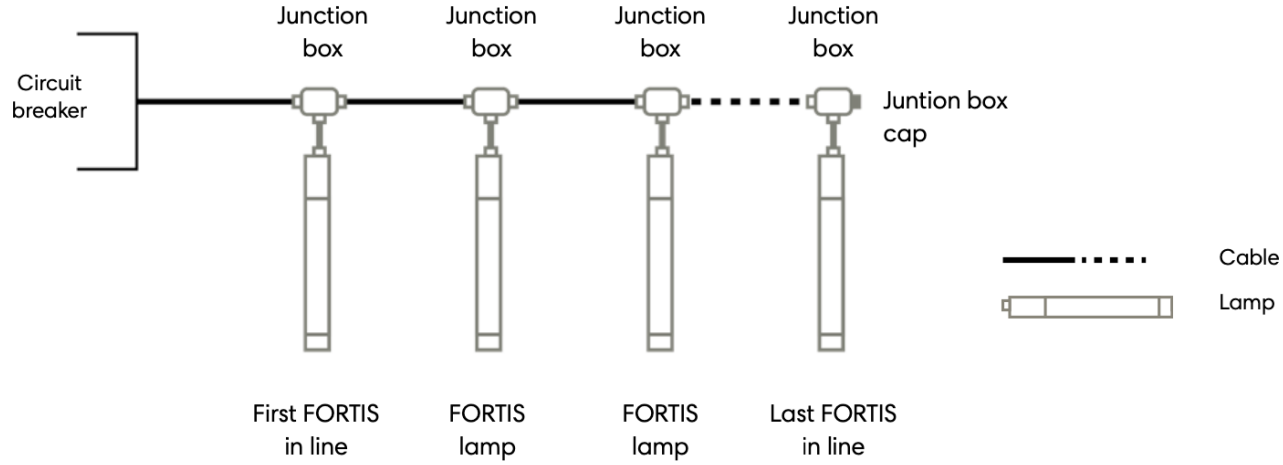
B Maximum length of line

Circuit breaker:	Cable between lamps	0 m 0 inch	1 m 39 inch	4 m 157 inch
	B10	43 lamps	43 lamps	27 lamps
		84 m 275 ft	129 m 423 ft	162 m 531 ft
	C10	43 lamps	30 lamps	16 lamps
		84 m 275 ft	90 m 295 ft	96 m 315 ft
	B16	37 lamps	23 lamps	12 lamps
		72 m 236 ft	69 m 226 ft	72 m 236 ft
	C16	21 lamps	13 lamps	7 lamps
		41 m 134 ft	39 m 128 ft	42 m 138 ft

*** Number of lamps connected to a HATO 230 Dimmer**

Maximum	36 lamps

Example of standard installation
1 Connector FORTIS



Inrush current (cold start): 5.2A
Inrush current time (T_{h50}): 100µS

Number of FORTIS behind a fuse

Circuit breaker:	Number of lamps on a circuit breaker*
B10	65
C10	75
B16	105
C16	120

*** Number of lamps connected to a HATO 230 Dimmer**

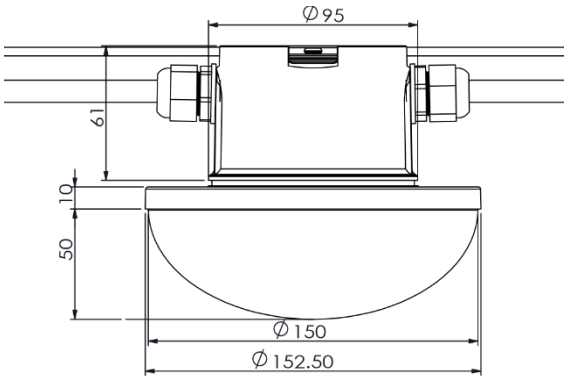
Maximum	36 lamps

CHAMPI LED // Mushrooms lighting

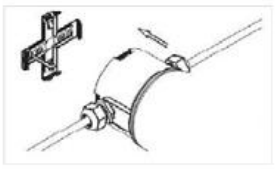
CHAMPI LED is not a through-wiring lamp this means every CHAMPI LED needs to be connected individually to the powerpack

Dimensions

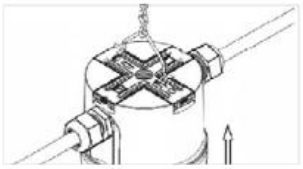
CORAX // Poultry lighting



Accessories incl.
Clip+ triangle for pendant mounting:
Maximum diameter of steel cable is 3.5 mm / 0.14 inch

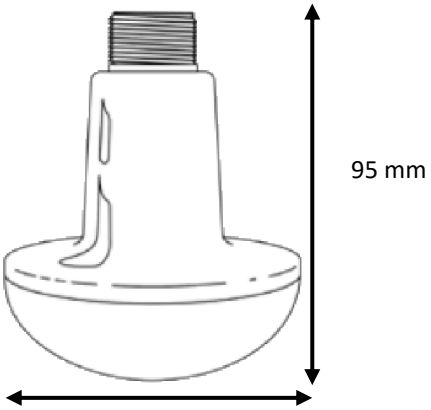


Pendant mounting

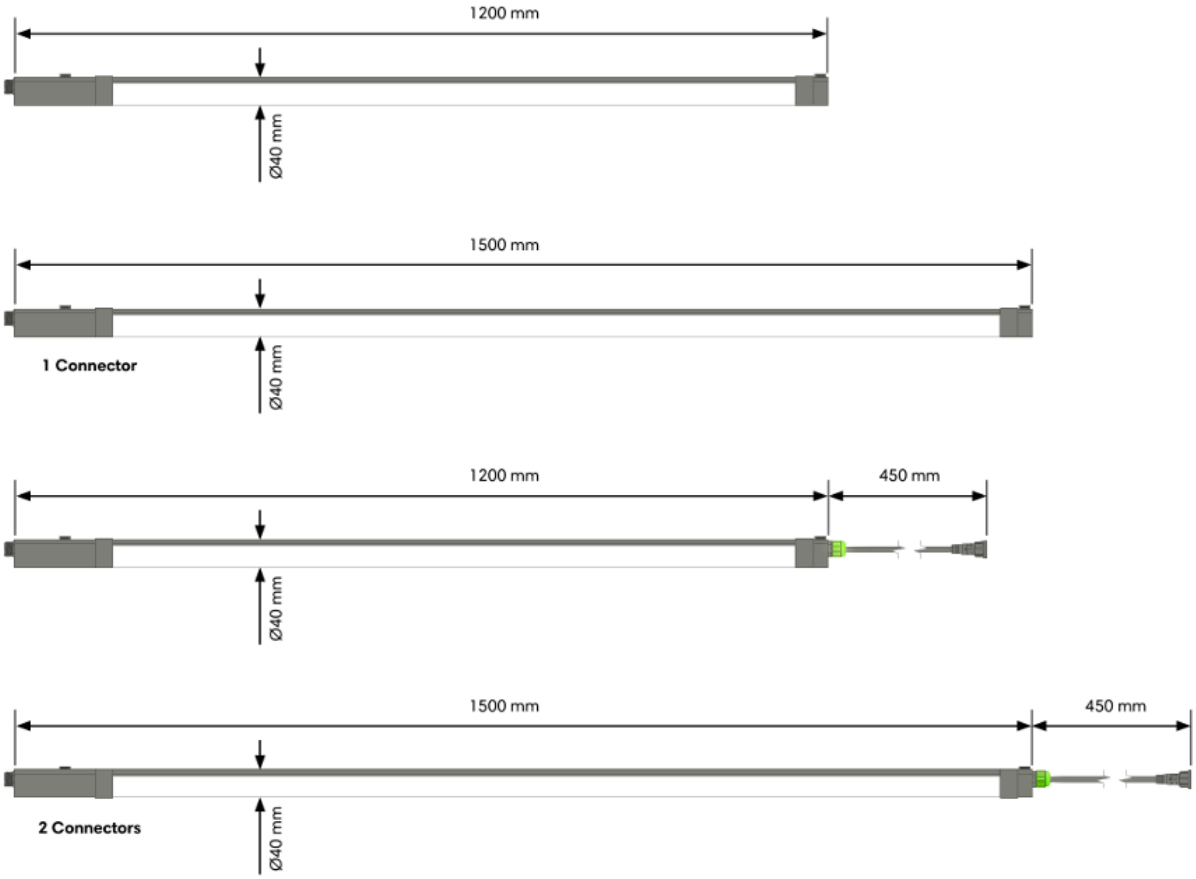


Cable mounting

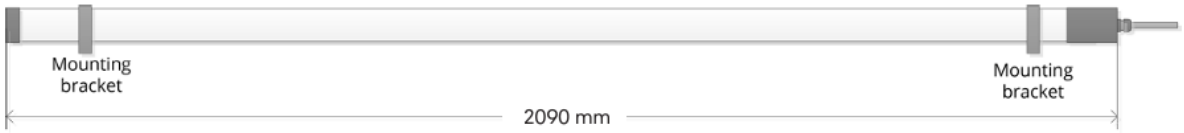
PICA // Poultry lighting



FORTIS // Pigs lighting



CHAMPI LED // Mushrooms lighting



50mm (diameter) glass tube

Technical specifications

CORAX // Poultry lighting

General Specifications	
Operating voltage	48V DC
Dimmer type	HATO 48V DC power supply
Dim range	0 – 100%
Light source	LED
Flicker-free	Yes
Expected average lifetime white LEDs	50.000 hours
Operating temperature range	-10°C (14°F) <Ta< +40°C (104°F)
Storage temperature range	-25°C (-13°F) ~ +80°C (176°F)
Net weight	375 gr / 0.83 lbs.
Cover material	Impact resistant PMMA
Base material	ABS
IP	IP67*

* Dust and watertight (can be cleaned with high pressure)

Type specifications						
Type	**Power Consumption**	**Light output**	**Efficacy**	**Light color (CCT)**	**CRI**	**Energy Class**
CORAX	7.6W	1050lm	138lm/W	3000K	> 80	E
CORAX CW	7.6W	1110lm	138lm/W	4500K	> 80	E
CORAX DDS*	Warm white: 7.1W** Cold white: 6.8W**	940lm	146lm/W	Warm white: 2500K Cold white: 6700K	> 80	E
CORAX XL	13.0W	1750lm	135lm/W	3000K	> 80	E

* Limit power to max 15W when mixing colors

** Includes 0,5W UV-A LED

Color Option Specifications				
Color options	**Power consumptions**	**Light output**	**Efficacy**	**Dominant wavelength**
Blue	3W	40lm	13.3lm/W	463nm
Red	6W	327lm	54.5lm/W	620nm

PICA // Poultry lighting

General Specifications	
Operating voltage	220 - 240V AC
Operating frequency	50 – 60 Hz
Power factor	0.9
Light source	LED
Dimmable	Yes, phase dimming
Flicker-free	Yes
Expected average lifetime*	35.000 hours
Operating temperature range	-10°C (14°F) <Ta< +40°C (104°F)
Storage temperature range	-25°C (-13°F) ~ +80°C (176°F)
Net weight	80 gr / 0.18 lbs.
Cover material	Impact resistant PMMA
Base material	ABS
IP	IP67**

* Lifetime definition & measurement available upon request

** Dust and watertight (can be cleaned with high pressure)

Type specifications						
Type	**Power Consumption**	**Light output**	**Efficacy**	**Light color (CCT)**	**CRI**	**Energy Class**
7449	6.3W	775lm	123 lm/W	3000K	> 80	D

FORTIS // Pigs lighting

General Specifications	
Operating voltage	220 - 240V AC
Operating frequency	50 – 60 Hz
Power factor	0.9
Dimmer type	HATO 230 dimmer or proper trailing edge dimmer
Dim range	2 – 100%
Light source	LED
Flicker-free	Yes
Expected average lifetime white LEDs	35.000 hours – L90B10 at 25°C
Operating temperature range	-10°C (14°F) <Ta< +40°C (104°F)
Storage temperature range	-25°C (-13°F) ~ +80°C (176°F)
Nett weight	150mm 900 gr / 1.98 lbs. 120mm 750 gr / 1.65 lbs.
Base material	PC
IP	IP67*

* Dust and watertight (can be cleaned with high pressure)

FORTIS 2 Connectors specifications							
Type	**Tube length**	**Power Consumption**	**Light output**	**Efficacy**	**Light color (CCT)**	**CRI**	**Energy Class**
7637	150mm	20.5W	3200lm	156 lm/W	5000K	> 80	D
7823	120mm	20.5W	3200lm	156 lm/W	5000K	> 80	D

	FORTIS 1 Connector specifications						
Type	**Tube length**	**Power Consumption**	**Light output**	**Efficacy**	**Light color (CCT)**	**CRI**	**Energy Class**
7760	150mm	20.5W	3200lm	156 lm/W	5000K	> 80	D
7822	120mm	20.5W	3200lm	156 lm/W	5000K	> 80	D

CHAMPI LED // Mushroom lighting

General Specifications	
Operating voltage	110 ~ 240V AC
Operating frequency	50 – 60 Hz
Power factor	≥0.9
Inrush current	Cold start 50A (t_{width} =270µs measured at 50% I_{peak}) at 230V AC; Per NEMA 410
Light source	LED
Dimmable	No
Flicker-free	Yes, for human eye
Expected average lifetime*	40.000 hours L80 B10 at 25°C
Operating temperature range	-10°C (-14°F) ~ +30°C (-86°F)
Storage temperature range	-25°C (-13°F) ~ +90°C (194°F)
Nett weight	2600 gr / 5.73 lbs.
Base material	Glass tube with glass bottom
Protection sleeve	PVC shrink tube
End cap	Soft PVC
Begin cap	PE
Mounting bracket	PP
IP	IP67**

* Lifetime definition & measurement available upon request

** Dust and watertight (can be cleaned with high pressure)

Type specifications							
Type	**Tube length**	**Power Consumption**	**Light output**	**Efficacy**	**Light color (CCT)**	**CRI**	**Energy Class**
7693	2030	40W	5200lm	130lm/W	5000K	> 80	