

# TOKISTAR

PRODUCT GUIDE  
GRADIENT OUTDOOR

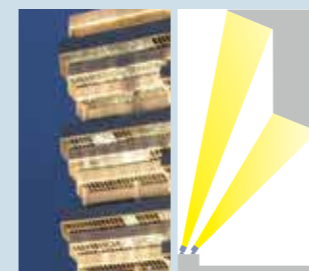


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2022.8 Ver. 1



The Concourse



GRX-L600-3000K-15D  
GRX-L600-3000K-08D (custom lens)

Lighting Design : Lighting Planners Associates

Point  
01

Enhanced louver for each construction condition and application



Custom-made louvers eliminate glare from front and side-viewing perspectives. These louvers are among the highly versatile improvements we have made to our GRX system.

Point  
02

Response to the heavy salt resistance requirement

We've improved the durability of metal surfaces by adding a treatment equivalent to the heavy salt resistance category, making our products compliant with the required standards.



Designated as heavy salt-resistant grades

Point  
03

Lightweight compact fixtures and waterproof connectors

Lightweight compact fixtures designed to weather the impact of wind and rain, make GRX the premium choice for many high-rise architectural exteriors. The connectors not only facilitate ease of installation, they also make maintenance less cumbersome.



## GRADIENT OUTDOOR Standard



Voltage = 24VDC  
 Weight = L300 : 400g / L600 : 750g / L900 : 1100g  
 Main Materials = Aluminum, Stainless steel & PC  
 Power Cable PVC = Insulation (AWG18 x 2 / AWG22 x 2)

### GRX02-□□K-□□-L□□□

LED Color	Beam Angle	Length
30K : 3000K 40K : 4000K	S P : Spread 15D : 15°	300 : 300mm 600 : 600mm 900 : 900mm

Catalog#	Power	Length	#of LEDs
GRX02-__K-_-L300	12W	0.3m	4pcs
GRX02-__K-_-L600	24W	0.6m	8pcs
GRX02-__K-_-L900	36W	0.9m	12pcs

※ Secondary Circuit Limitation : 96W

### LED Colors, lm

3000K : 2933 lm/m      4000K : 2933 lm/m

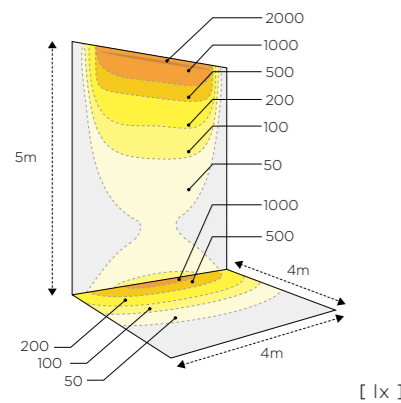
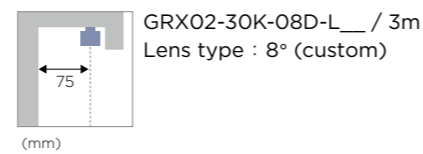
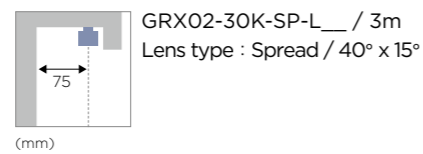
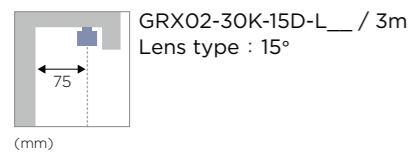
※ The above values are for Standard type.

### Beam Angle

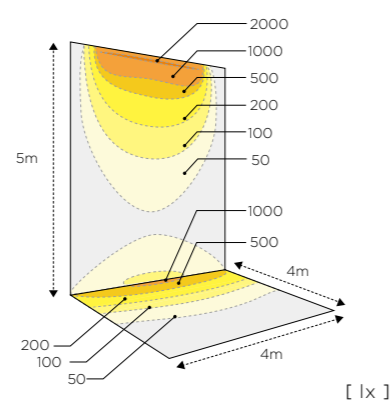
SP : Spread (40° x 15°)      15D : 15°

O8D : 8° (custom)

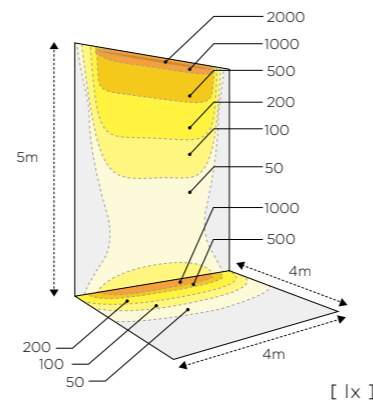
### Light Distribution



[ lx ]

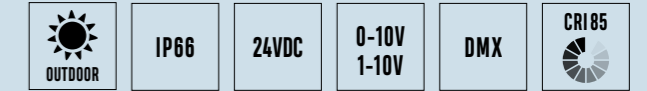


[ lx ]



[ lx ]

## GRADIENT OUTDOOR with Slit-Guard



Voltage = 24VDC  
 Weight = L300 : 560g / L600 : 1100g / L900 : 1600g  
 Main Materials = Aluminum, Stainless steel & PC  
 Power Cable PVC = Insulation (AWG18 x 2 / AWG22 x 2)

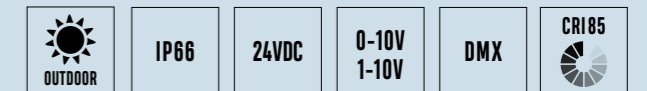
### GRX02S-□□K-□□-L□□□

LED Color	Beam Angle	Length
30K : 3000K 40K : 4000K	S P : Spread 15D : 15°	300 : 300mm 600 : 600mm 900 : 900mm

Catalog#	Power	Length	#of LEDs
GRX02S-__K-_-L300	12W	0.3m	4pcs
GRX02S-__K-_-L600	24W	0.6m	8pcs
GRX02S-__K-_-L900	36W	0.9m	12pcs

※ Secondary Circuit Limitation : 96W

## GRADIENT OUTDOOR with L-Guard



Voltage = 24VDC  
 Weight = L300 : 620g / L600 : 1200g / L900 : 1800g  
 Main Materials = Aluminum, Stainless steel & PC  
 Power Cable PVC = Insulation (AWG18 x 2 / AWG22 x 2)

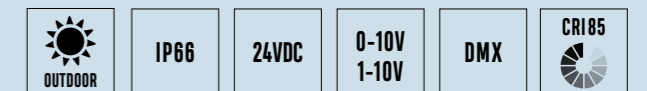
### GRX02L-□□K-□□-L□□□

LED Color	Beam Angle	Length
30K : 3000K 40K : 4000K	S P : Spread 15D : 15°	300 : 300mm 600 : 600mm 900 : 900mm

Catalog#	Power	Length	#of LEDs
GRX02L-__K-_-L300	12W	0.3m	4pcs
GRX02L-__K-_-L600	24W	0.6m	8pcs
GRX02L-__K-_-L900	36W	0.9m	12pcs

※ Secondary Circuit Limitation : 96W

## GRADIENT OUTDOOR with Partition-Guard



Voltage = 24VDC  
 Weight = L300 : 780g / L600 : 1500g / L900 : 2300g  
 Main Materials = Aluminum, Stainless steel & PC  
 Power Cable PVC = Insulation (AWG18 x 2 / AWG22 x 2)

### GRX02P-□□K-□□-L□□□

LED Color	Beam Angle	Length
30K : 3000K 40K : 4000K	S P : Spread 15D : 15°	300 : 300mm 600 : 600mm 900 : 900mm

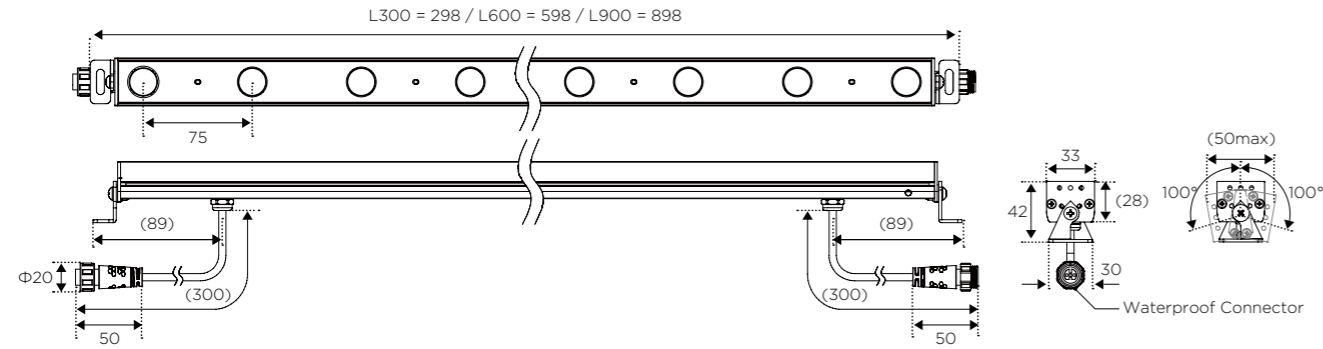
Catalog#	Power	Length	#of LEDs
GRX02P-__K-_-L300	12W	0.3m	4pcs
GRX02P-__K-_-L600	24W	0.6m	8pcs
GRX02P-__K-_-L900	36W	0.9m	12pcs

※ Secondary Circuit Limitation : 96W

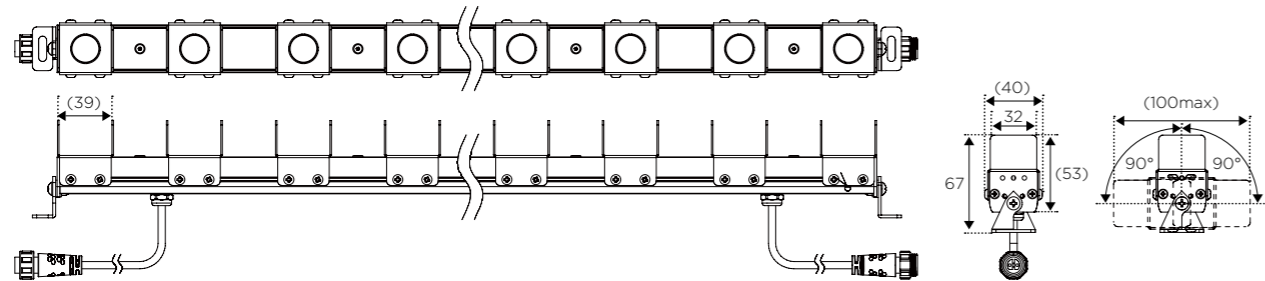
## Specifications

(mm)

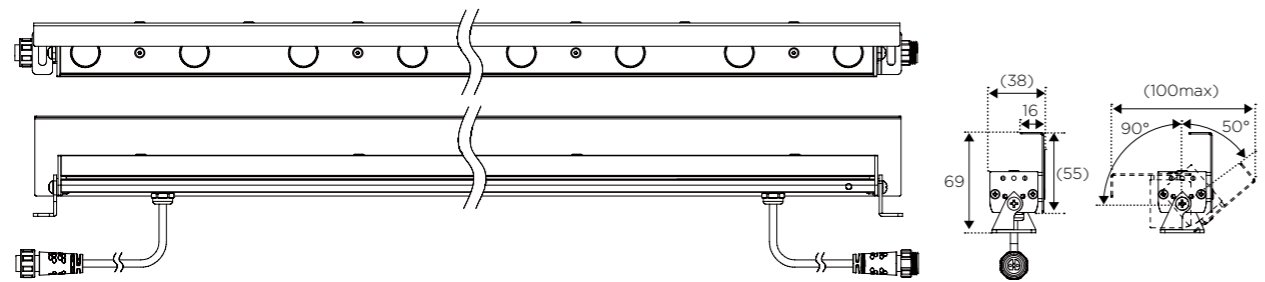
### GRADIENT OUTDOOR Standard



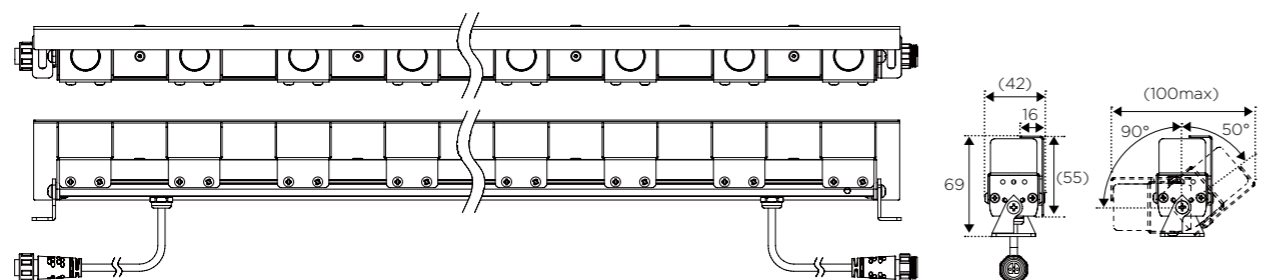
### GRADIENT OUTDOOR with Slit-Guard



### GRADIENT OUTDOOR with L-Guard



### GRADIENT OUTDOOR with Partition-Guard



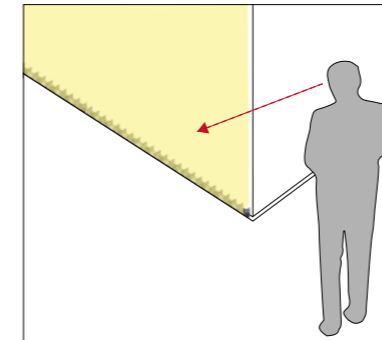
## Special features for our Louver lineups

### Slit-Guard

**Ceiling and floor slits.**  
This effectively reduces glare from side-viewing angles when it is installed in slit areas.

Glare cut angle : 42°

Standard      With Slit-Guard

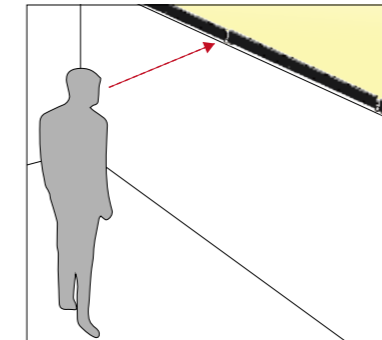
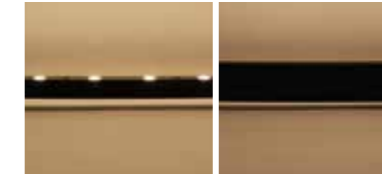


### L-Guard

**Architectural exteriors, rooftop construction, walls and signboards.**

This linear glare guard is highly effective in reducing glare on exterior applications where the fixture is viewed directly and not concealed.

Standard      With L-Guard

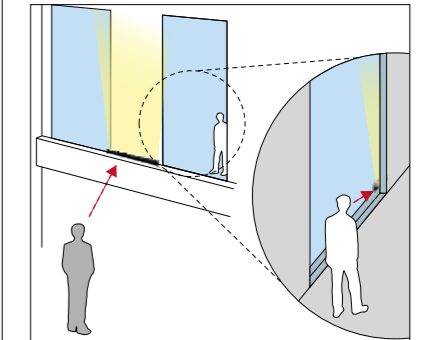


### Partition-Guard

**Architectural exteriors and areas needing additional protection against glare.**

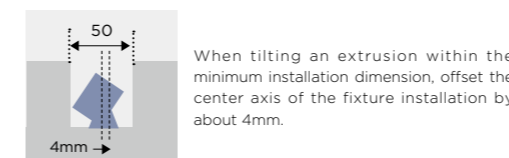
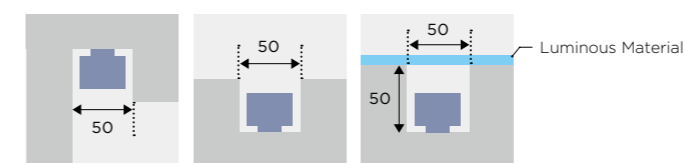
The Slit-Guard and L-Guard are used in conjunction with each other to eliminate glare from front and side-viewing perspectives.

Standard      With Partition-Guard



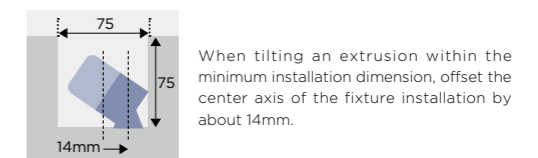
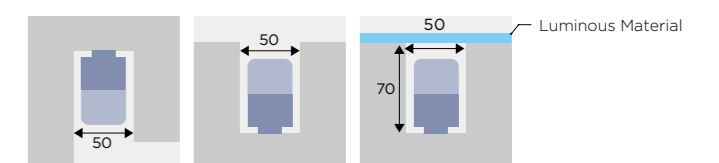
## Minimum Space Requirements

### Standard Extrusion



When tilting an extrusion within the minimum installation dimension, offset the center axis of the fixture installation by about 4mm.

### With Guard



When tilting an extrusion within the minimum installation dimension, offset the center axis of the fixture installation by about 14mm.

## GRX Connectors

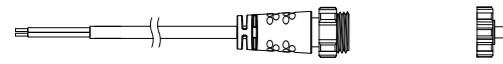
### GRX Connectors

Waterproof connectors link fixtures and bring 24VDC power to the system for plug-and-go simplicity.

#### GRX-CON-3m/EC (3m length)

#### GRX-CON-10m/EC (10m length)

In non-dimming applications each run of GRX receives this feed connector with a 3m or 10m lead. End Caps insulate a female connector at the end of a run.

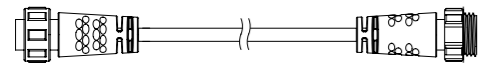


GRX-CON-3m/EC	GRX Lead Cable 3m & End Cap
GRX-CON-10m/EC	GRX Lead Cable 10m & End Cap

#### GRX-EXT-1m (1m length)

#### GRX-EXT-3m (3m length)

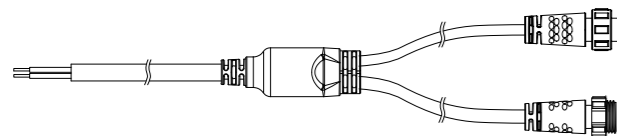
Extension cables extend the distance between fixtures and may be added to GRX-CON and GRX-Y-CON connectors to reach remote LED driver locations.



GRX-EXT-1m	GRX Extension Cable 1m
GRX-EXT-3m	GRX Extension Cable 3m

#### GRX-Y-CON (6m length)

In dimming applications this Y-Connector with a 6m lead wire is attached to opposing ends of fixtures.



GRX-Y-CON	Y-Connector
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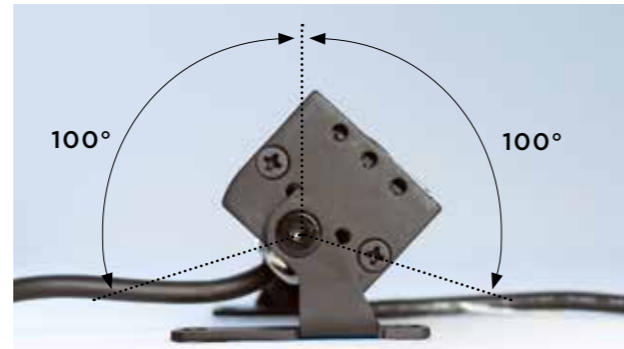
## Instructions

### Mounting



Securely mount fixtures using screws on both mounting brackets.

### Adjustable brackets



Each fixture is fitted with adjustable brackets on the ends.

※ The indicated angle above is for our standard extrusion. Refer to the dimensioned drawings on pages 5 and 6 for the range adjustment of various louvers.

### Mounting Stakes



These aluminum stakes may be attached on site to GRX adjustable brackets.

GRX-SPI2-OP	GRX Stakes
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Ruspert treatment  
2pcs /set

## Power Supplies & Dimmer Packs

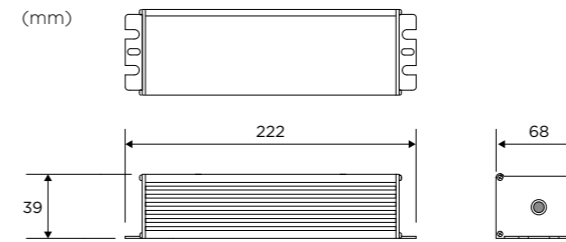
### 24VDC LED Drivers

#### Common Specifications

Input Range : 100-277VAC  
Frequency Range : 50/60Hz  
Output: 24VDC (+/- 3%)  
Protection : Overload, Over Voltage, Short Circuit, Over Temperature  
Operating Temperature : -30°C-+50°C

#### LDR24-96

Tokistar's LDR24-96 has a single 96 Watt output.



#### Specifications

Max. Output Current : 4.0A  
Max. Output Power : 96W

#### Mechanical Specifications

Dimensions : W68 x L222 x H39mm  
Weight : 998g  
Enclosure Rating : Suitable for use in Dry, Damp and Wet Locations/IP67 Rated  
Mounting : Flange Mount

#### Safety Standards

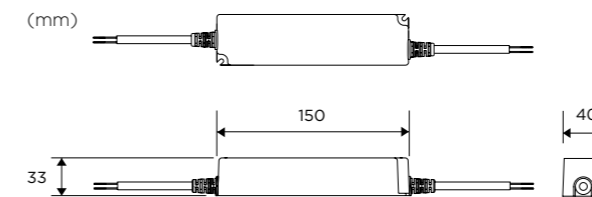
UL 879, UL 8750, UL 1310 Class 2, TUV EN60950-1, EN61347-1, EN61347-2-3 ind. CAN/CSA C22.2, No. 223-M91, CE, IP67 Rated

#### LED Module Capacity

3.0Watt LEDs : 32 each

#### LDR24-16

Tokistar's LDR24-16 has a single 16 Watt output.



#### Specifications

Max. Output Current : 0.67A  
Max. Output Power : 16W

#### Mechanical Specifications

Dimensions : W40 x L150 x H33mm  
Weight : 210g  
Enclosure Rating : Suitable for use in Dry and Damp Locations/IP30 Rated  
Mounting : Flange Mount

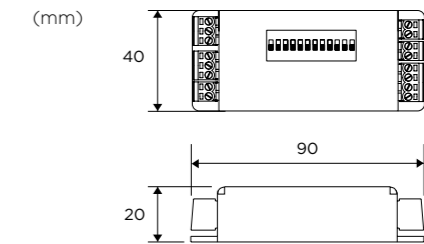
#### Safety Standards

UL8750, CSA C22.2 No. 250.0-08, EN61347-1, EN61347-2-13 independent, EN62384, J61347-1, J61347-2-13 approved, Design refer to UL60950-1, TUV EN60950-1

### Dimmer Packs

#### LC-1CH-MULTI

Tokistar's LC-1CH-MULTI Dimmer Pack is compatible with industry-standard dimmers working on DMX or 0-10V/1-10V protocol. In the manual mode, a preset light level can be set without the use of an external dimmer.

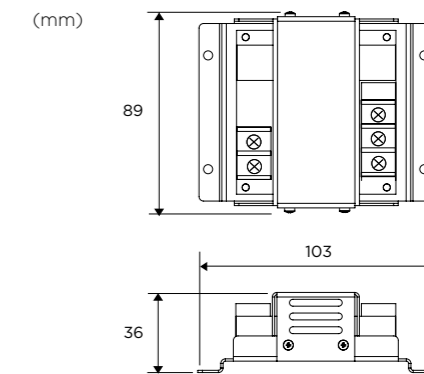


#### Specifications

Input : 24VDC  
Environmental Rating : Dry Location/IP20  
Dimensions : W40 x L90 x H20mm  
Weight : 50g  
Listing : ETL Listed/CE Certified  
Operating Temperature : 0-+50°C

#### LC-GR-DP

Dimmer pack receives a 24VDC input from a LED driver and sends a signal output to the fixture.



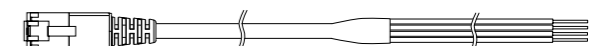
#### Specifications

Input : 24VDC  
Dimensions : W89 x L103 x H36mm  
Weight : 200g

### LAN Cable

#### LC-LAN-MULTI

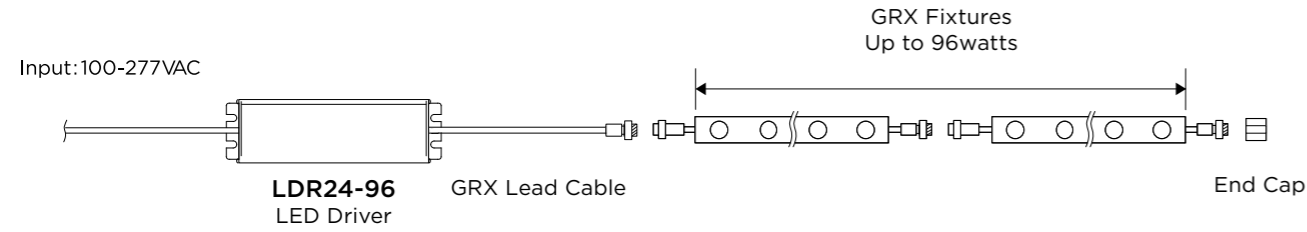
An exclusive LAN cable for GRX dimming system.



## Wiring Diagrams

### Non-Dimming Wiring Diagram

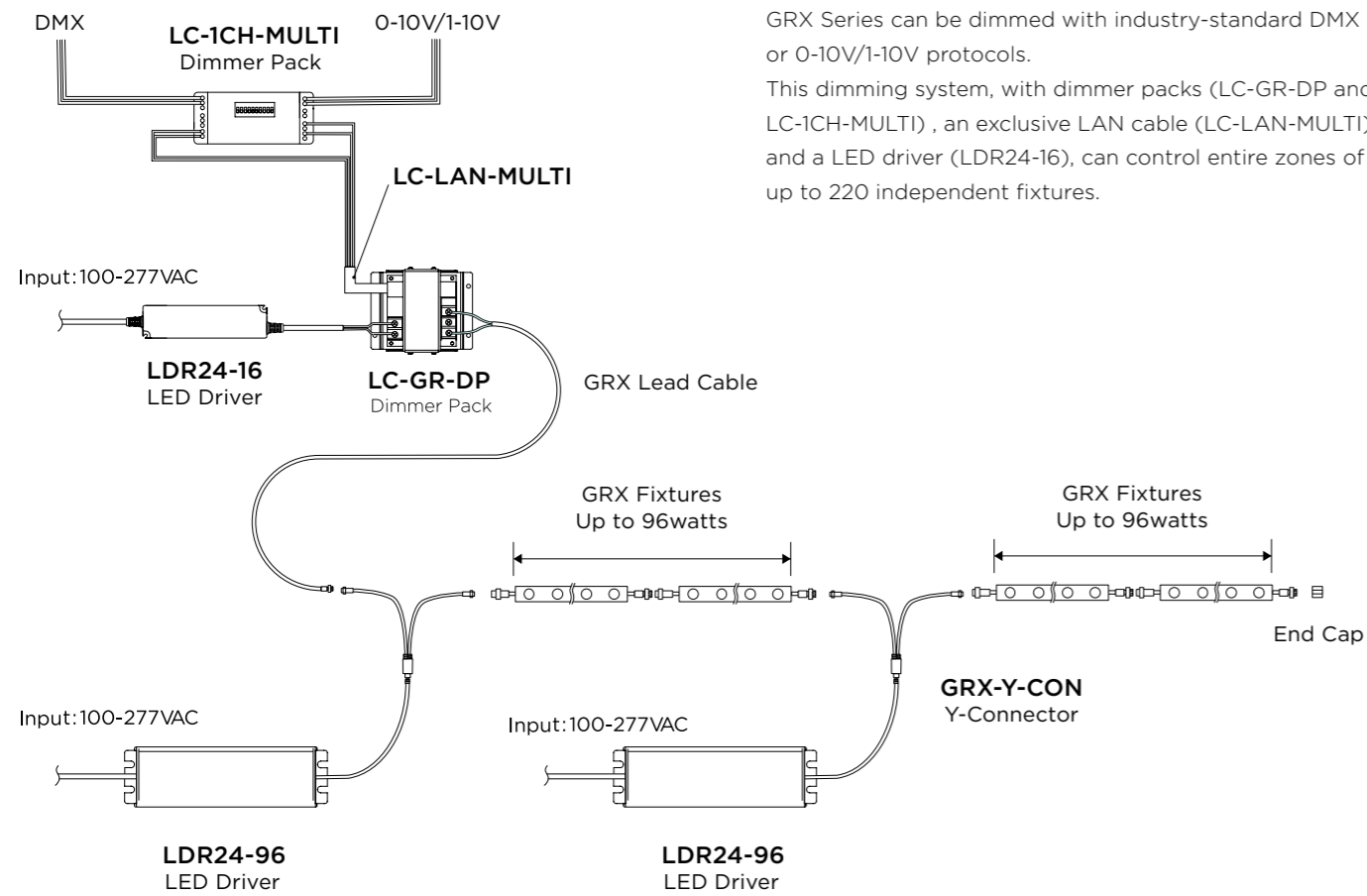
The maximum load of fixtures from an output of a driver is 96 watts. The maximum run length of a secondary circuit including fixture lengths, feed connector and extension cables is not to exceed 24m.



### Dimming Wiring Diagram

GRX Series can be dimmed with industry-standard DMX or 0-10V/1-10V protocols.

This dimming system, with dimmer packs (LC-GR-DP and LC-1CH-MULTI), an exclusive LAN cable (LC-LAN-MULTI) and a LED driver (LDR24-16), can control entire zones of up to 220 independent fixtures.



#### ⚠️ PRECAUTIONS

1. Read all instructions completely before beginning installation.
2. Turn off electricity before beginning installation.
3. All wiring is to be performed by a qualified electrician.
4. Installation must comply with the National Electrical Code, or all applicable codes.
5. Turn main supply to LED Driver on only after all connections have been made and tested.
6. Use only LED Drivers provided by Tokistar with the system.