

KAA-4R4V Series

KNX Actuator/Dimmer



Case:
72 x 90 x 57mm

Features

- Dimming and switching LED driver and conventional electronic ballast
- LED indicator for each channel
- Linea or logarithmic dimming curve programmable via ETS software
- Manual control via Push button
- Programmable various time and scene function
- 3 years warranty

TYPE	FUNCTION
-10	4 channel actuator, 10A per channel
D	4 channel actuator, 16A per channel

KAA - 4R4V ← -10: 10A per channel
Blank: 16A per channel
Series name R: Relay on/off for 4-channel (4 fold) V: 0(1) -10V dimming for 4-channel (4 fold)



Specification

	MODEL No.	KAA-4R4V-10	
SUPPLY	KNX Bus Voltage	21~31V	
	Current Consumption	<11mA	
	Power Consumption	<250mW	
OUTPUT CONTROL	Voltage Range	0-10V	
	No of control output	4	
	Type of control	Passive	
	Max. current per output	50mA	
OUTPUT RELAY OUTPUT SWITCHING RATINGS	Max. cable length at full load	100m with cable cross-section 1.5mm ²	
	Number of relay	4	
	Independent & Potential-free per relay	Yes	
	Current	OHMIC LOAD	10A
		Capacitive Load	220µF
	Max. Inrush Current	400A (max. 200µs), 80A (max. 20ms)	
	EN60947-4-1 AC1(COSφ=0.8)	10A	
	EN60947-4-1 AC5a(COSφ=0.45)	8A	
	EN60947-4-1 AC5b	10A	
	Max Total Current of the Actuator	40A	
Output Service Life	Mechanical Service Life	>10 ⁶	
	Electrical Endurance EN60669-1 19.1	4 ¹ 10 ⁴	
	EN60669-1 19.2, FLOURSCENT LAMP(AX)	10 ⁴	
Operating and display	Programming Button/LED	Program the individual address	
	Manual Button/LED	Relay and Dimming manual control	
ENVIRONMENT	Working Temp. (Typ.)	-30 ~ +45°C (3K5)	
	Storage Temperature	-35 ~ +70°C	
	Working Humidity	20 ~ 95% RH non-condensing	
	Protection Class	II, According to EN61140	
	Over Voltage Category	III According to EN60664-1	
	Pollution Degree	2, according to IEC60664-1	
Degree of Protection	IP20, According to EN60529		
SAFETY & EMC	Safety Standards	EN50491-3, EN60669-1, EN60669-2-1, EN60669-2-5, EAC TP TC 004 approved	
	EMC Emission	Compliance to EN50491-5-1,-2,-3, EN50090-2-2, EN60669-2-1, EN60669-2-5, EN63044-5-1,-2,-3, EAC TP TC 020	
	EMC Immunity	Compliance to EN50491-5-1,-2,-3, EN50090-2-2, EN60669-2-1, EN60669-2-5, EN63044-5-1,-2,-3, EAC TP TC 020	
CONNECTIONS	Screw Terminal	0.5 - 4.0mm ² solid core 0.5 - 2.5mm ² finely stranded	
	KNX Bus Connection Terminal	8mmφ, solid core	
OTHERS	Mounting width in units	4	
	Dinrail Mounting	35mm mounting rail according to DIN EN60715	
	Packing	0.247Kg ; 48pcs/12.53Kg/1.02CUFT	

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25 °C of ambient temperature.
2. Notified Body Test Report is provided.

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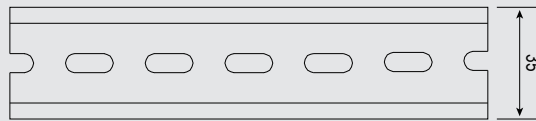
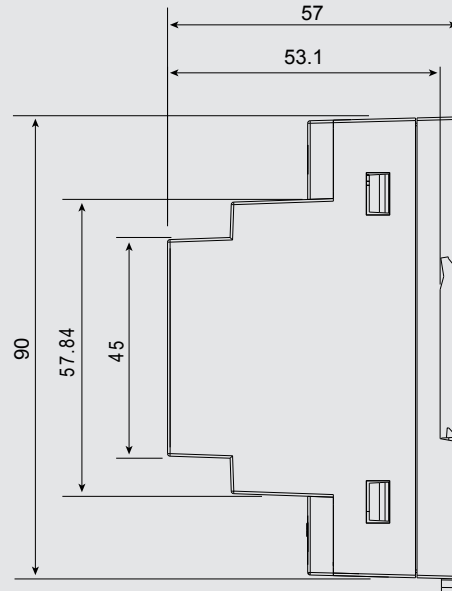
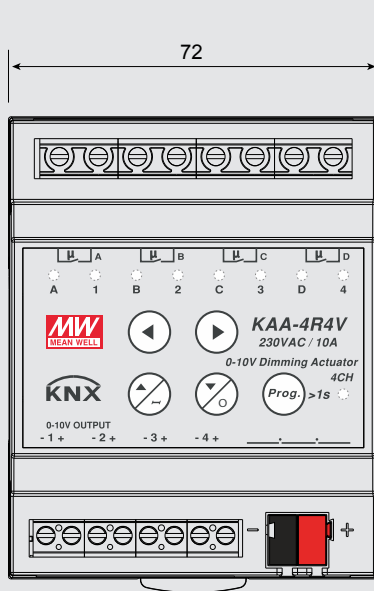
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Mechanical Diagram

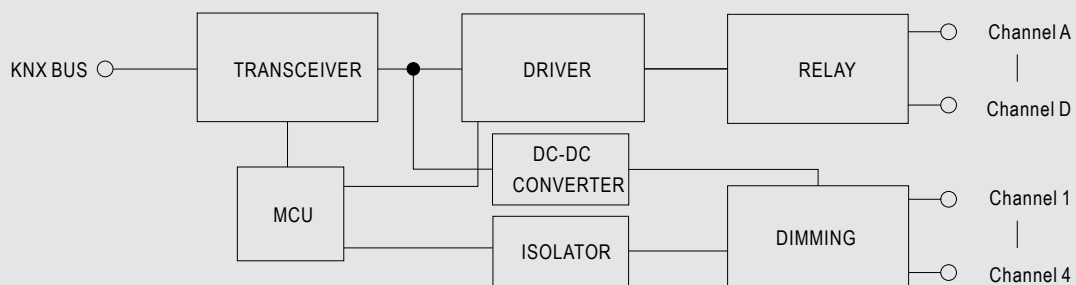
Case No. KAA

Unit:mm



ADMISSIBLE DIN-RAIL: TS35/7.5 OR TS35/15

Block Diagram



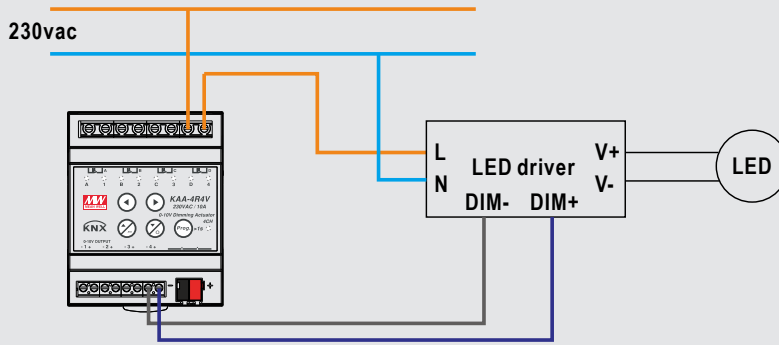
KAA-4R4V Series

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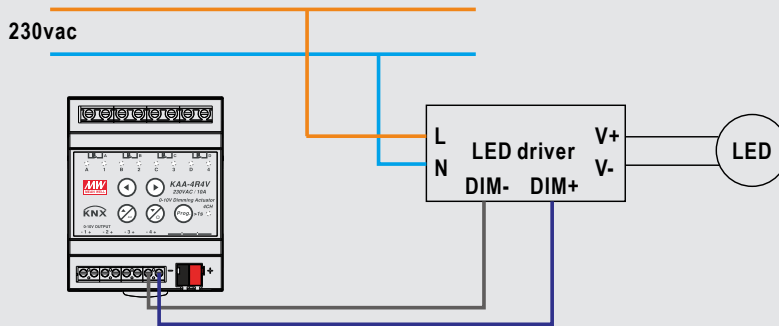


Typical Application

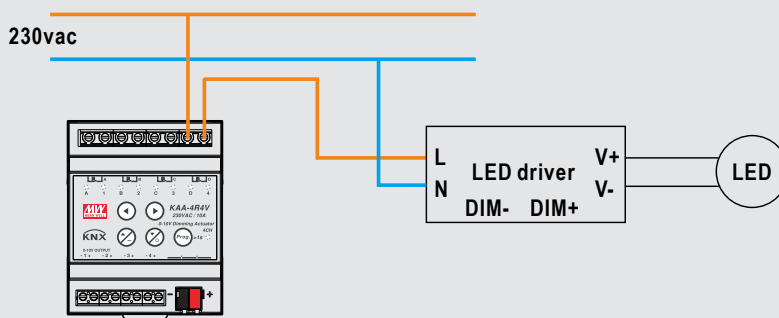
Application 1: Work with DC 1-10V LED driver



Application 2: Work with DC 0-10V LED driver



Application 3: Work with non-dimmable driver



Recommended Screwdriver, Wire and Torque Setting

1. Screwdriver(Width*Thick): Slotted screwdriver 2.5*0.4~3.5*0.6
2. Wire: 0.5~4.0mm² solid core or 0.5~2.5mm² finely stranded
3. Torque: 0.8Nm

Max. output load per channel

Maximum load	KAA-4R4V-10
Resistive load	2300 W
LED driver	refer to table below
Incandescent lamps	2300 W
Halogen lamps 230V	2300 W
Halogen lamps, electronic transformer	1300 W
Fluorescent lamps, not compensated	2000W
Fluorescent lamps, parallel comp.	1200W
Max. number of electronic transformers	15

Nr. of driver per control output channel

The maximum number of driver is 500 pcs per channel in case current from each driver is sourcing 0.1mA.
The actual number of driver is subject to applications. i.e. total cable length in system.

Nr. of driver per relay channel

The maximum number of the LED PSUs that can be connected to each relay channel at 230V is shown as below	
Suggested model	KAA-4R4V-10
APC-8	22
APC-12	11
APC-16	18
APC-25	11
APC-35	11
APC-8E	22
APC-12E	18
APC-16E	15
APV-8	22
APV-12	11
APV-16	18
APV-25	11
APV-35	11
APV-8E	22
APV-12E	18
APV-16E	15
LCM-25	25
LCM-40	25
LCM-60	25
LCM-25DA	25
LCM-40DA	25
LCM-60DA	25
LPC-20	11
LPC-35	9
LPC-60	8

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The maximum number of the LED PSUs that can be connected to each relay channel at 230V is shown as below

Suggested model	KAA-4R4V-10
LPC-100	7
LPC-150	5
LPF-16	18
LPF-25	16
LPF-40	16
LPF-60	9
LPF-90	7
LPF-16D	18
LPF-25D	16
LPF-40D	16
LPF-60D	9
LPF-90D	7
LPH-18	16
LPHC-18	16
LPV-20	11
LPV-35	9
LPV-60	8
LPV-100	7
LPV-150	8
NPF-40	10
NPF-60	10
NPF-90	8
NPF-120	8
NPF-40D	10
NPF-60D	10
NPF-90D	8
NPF-120D	8
PCD-16B	80
PCD-25B	53
PCD-40B	45
PCD-60B	26
PLC-30	23
PLC-45	23
PLC-60	23
PLC-100	13
PLD-16B	40
PLD-25	32
PLD-40B	32
PLD-60B	32
PLM-12	53
PLM-25	53
PLM-40	53

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The maximum number of the LED PSUs that can be connected to each relay channel at 230V is shown as below

Suggested model	KAA-4R4V-10
PLN-20	23
PLN-30	23
PLN-45	23
PLN-60	23
PLN-100	13
PLP-30	32
PLP-45	27
PLP-60	23
PWM-40	10
PWM-60	10
PWM-90	8
PWM-120	8
HLN-40H	10
HLN-60H	9
HLN-80H	7
HLP-40H	7
HLP-60H	9
HLP-80H	7
CEN-60	22
CEN-75	22
CEN-100	22
CLG-60	23
CLG-100	13
CLG-150	8
ELG-75	10
ELG-100	8
ELG-150	8
ELG-75-C	10
ELG-100-C	13
ELG-150-C	8
HBG-100	8
HBG-160	8
HBG-240	7
HBG-60	18
HLG-40H	16
HLG-60H	9
HLG-80H	7
HLG-100H	8
HLG-120H	8
HLG-150H	8
HLG-185H	8
HLG-240H	5

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The maximum number of the LED PSUs that can be connected to each relay channel at 230V is shown as below

Suggested model	KAA-4R4V-10
HLG-320H	6
HLG-600H	3
HLG-60H-C	8
HLG-80H-C	8
HLG-120H-C	10
HLG-185H-C	9
HLG-240H-C	7
HLG-320H-C	6
HSG-70	9
HVG-65	20
HVG-100	8
HVG-150	8
HVG-240	5
HVG-320	4
HVGC-65	20
HVGC-100	8
HVGC-150	8
HVGC-240	5
HVGC-320	4

Communication Object Table

Num	Name	Object function	Length	DPT	Priority	Flag
1	Central Function	Manual control	1bit	Enable	Low	CW
2	Central Function	Switch On/Off	1bit	Switch	Low	CW
3	Central Function	Dim absolutely	1byte	Percentage	Low	CW
4	Central Function	Operation	1bit	State	Low	CRT
5	Channel 1	Switch On/Off	1bit	Switch	Low	CW
6	Channel 1	Switch State	1bit	State	Low	CRT
7	Channel A	Additional Switch On/Off	1bit	Switch	Low	CW
8	Channel A	Additional Switch state	1bit	State	Low	CRT
9	Channel 1	Dim relatively	4bit	Dimming control	Low	CW
10	Channel 1	Dim absolutely	1byte	Percentage	Low	CW
11	Channel 1	State Dimming Value	1byte	Percentage	Low	CRT
12	Channel 1	Scene	1byte	scene number	Low	CW
			1byte	scene control	Low	CW
13	Channel 1	Automatic 1	1bit	Switch	Low	CW
14	Channel 1	Automatic 2	1bit	Switch	Low	CW
15	Channel 1	Automatic 3	1bit	Switch	Low	CW
16	Channel 1	Automatic 4	1bit	Switch	Low	CW
17	Channel 1	Block I	1bit	Enable	Low	CW
18	Channel 1	Block II	1bit	Enable	Low	CW
19	Channel 1	Staircase light	1bit	Switch	Low	CW
20	Channel 1	Staircase light with time	2byte	time(0-65535)s	Low	CW
21	Channel 1	Prewarning	1bit	Alarm	Low	CRT
22	Channel 1	Permanent ON	1bit	Switch	Low	CW
23	Channel 2					
					
41	Channel 3					
					
59	Channel 4					
					

The priority of the particular communication objects as well as the flags can be adjusted. The flag control the function of the objects in the programming where C stands for communication, R for Read, W for write, T for transmit and U for update.