KNX Universal Actuator

KAA-8R-S

User's Manual
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Indoor | LED | Household | Building Automation

Features

- 8 channel actuator in a compact size
- Suitable for various and mixed applications
- For AX, C-load, capacitive & inductive of loads
- Program via ETS5.0 software
- Support KNX Data Secure
- Manual control via Push button
- Programmable various time and scene function
- 3 years warranty

Applications

- Building Automation
- Lighting switch
- Shutter/Blind control
- Heating control
- Ventilation function

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

The KNX actuator is a 8 channel device with high quality independent latching relay for switch, shutter or any possible mixed applications. The compact design with 4 units (72 mm) wide modular makes it suitable for installation in the distribution board on 35 mm mounting rails in the EIB / KNX application. The connection to the KNX bus is implemented via a bus connection terminal.The new version also supports KNX Data Secure function. KNX Data Secure offers protection against manipulation in building automation and can be configured in the ETS project.The switching relays are particularly suitable for switching ohmic loads, capacitive loads, for instance LED drivers and inductive loads as well as motors in shutter or blind applications.The actuator are poweredvia the EIB / KNX and do not require any additional power supply.

Model Encoding

KAA - 8R - □ S

- S: Built-in with KNX Secure function
- □: Blank: 16A per channel; -10: 10A per channel
- 8R: R:Relay on/off for 8-channel(8 fold)
- KAA: Series name

Type	Function	Note
Blank	8 channel actuator, 16A per channel	In stock
-10	8 channel actuator, 10A per channel	In stock

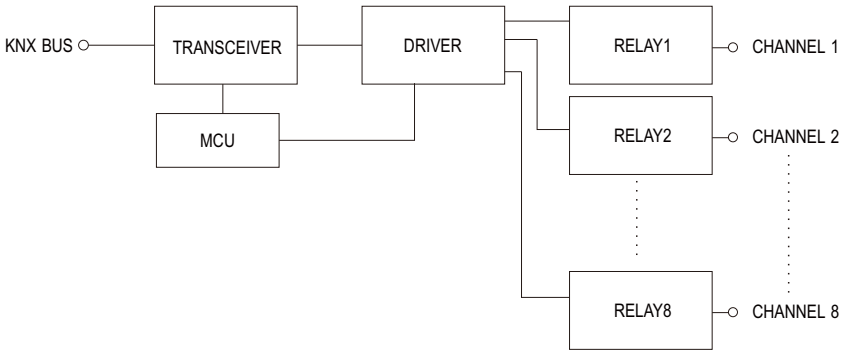
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SPECIFICATION

ORDER NO.			KAA-8R-16S	KAA-8R-10S
SUPPLY	SAFETY MODEL NO.		KAA-8R-S	KAA-8R-10S
	KNX BUS VOLTAGE		21~31V	
	CURRENT CONSUMPTION		<10mA	
	POWER CONSUMPTION		<180mW	
	Nr. OF SWITCHING OUTPUT		8	
	Nr. OF SHUTTER OUTPUT		4	
	OUTPUT TYPE		Independent, potential-free bistable(latching) relay	
OUTPUT SWITCHING RATINGS	VOLTAGE		230VAC@50Hz	
	CURRENT	OHMIC LOAD	16A	10A
		CAPACITIVE LOAD	220 μF(See Note.2)	220 μF(See Note.2)
	MAX. INRUSH CURRENT		800A(max. 200 μs),165A(max. 20ms)	400A(max. 200 μs),80A(max. 20ms)
	EN60947-4-1 AC1(COS θ =0.8)		16A	10A
	EN60947-4-1 AC3(COS θ =0.45)		8A	5A
	EN60947-4-1 AC5a(COS θ =0.45)		8A	8A
	EN60947-4-1 AC5b		16A	10A
	MAX. TOTAL CURRENT OF THE ACTUATOR		80A	56A
OUTPUT SERVICE LIFE	MECHANICAL SERVICE LIFE		$>10^6$	
	ELECTRICAL ENDURANCE EN60669-1 19.1		10^4(See Note.2)	$4*10^4$(See Note.2)
	EN60669-1 19.2 , FLOURSCENT LAMP(AX)		10^4(See Note.2)	10^4(See Note.2)
OPERATING & DISPLAY	PROGRAMMING BUTTON/LED		Program the individual address	
	MANUAL BUTTON/LED		Manual control and indication	
ENVIRONMENT	WORKING TEMP.		-30 ~ +45℃ (3K5)	
	STORAGE TEMP.		-35 ~ +70℃	
	WORKING HUMIDITY		10 ~ 95% RH non-condensing	
	PROTECTION CLASS		Ⅱ , According to EN61140	
	OVER VOLTAGE CATEGORY		Ⅲ , According to EN60664-1	
	POLLUTION DEGREE		2, According to EN60664-1	
	DEGREE OF PROTECTION		IP20,According to EN60529	
SAFETY & EMC	SAFETY STANDARDS		BS EN/EN50491-3, BS EN/EN60669-1, BS EN/EN60669-2-1, BS EN/EN60669-2-5(See Note.2), EAC TP TC 004 approved	
	EMC EMISSION		Compliance to BS EN/EN50491-5-1,-2,-3, BS EN/EN50090-2-2, BS EN/EN60669-2-1, BS EN/EN60669-2-5, BS EN/EN63044-5-1,-2,-3(See Note.2), EAC TP TC 020	
	EMC IMMUNITY		Compliance to BS EN/EN50491-5-1,-2,-3, BS EN/EN50090-2-2, BS EN/EN60669-2-1, BS EN/EN60669-2-5, BS EN/EN63044-5-1,-2,-3(See Note.2), EAC TP TC 020	
	WITHSTAND VOLTAGE		Between switching and SELV control circuit： 3.5KVAC	
CONNECTIONS	SCREW TERMINAL		0.5 – 4.0mm² solid core 0.5 - 2.5mm² finely stranded	
	KNX BUS CONNECTION TERMINAL		0.8mm ϕ , solid core	
OTHERS	MTBF		597.8K hrs min. Telcordia SR-332 (Bellcore) ; 447.9K hrs min. MIL-HDBK-217F (25℃)	
	DIMENSION		72*90*57mm (W*H*D)	
	MOUNTING WIDTH IN UNITS		4	
	DIN RAIL MOUNTING		35mm mounting rail according to DIN EN60715	
	PACKING		0.312Kg ; 48pcs/16Kg/1.02CUFT	
NOTE	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. ※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx			

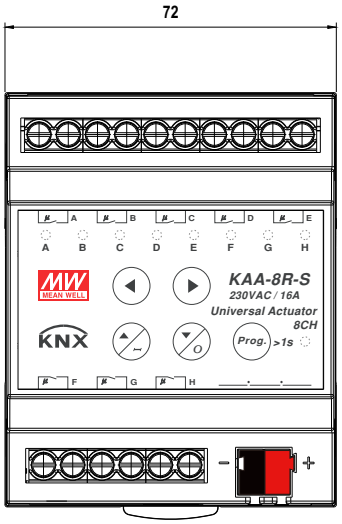
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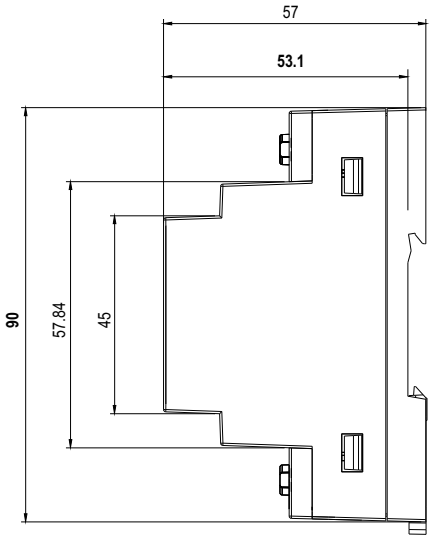
■ Block Diagram

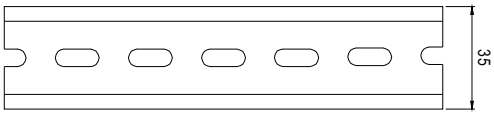


■ Mechanical Specification

Case No. KAA Unit:mm Tolerance:±1







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

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■ Max. output load per channel

Maximum load	KAA-8R-S	KAA-8R-10S
Resistive load or heater	3680W	2300W
LED driver	refer to table below	refer to table below
Incandescent lamps	2300W	2300W
Halogen lamps 230V	2300W	2300W
Halogen lamps, electronic transformer	1300W	1300W
Fluorescent lamps, not compensated	2000W	2000W
Fluorescent lamps, parallel comp.	1200W	1200W
Max. number of electronic transformers	15	15
Shutter motor	600W	600W

■ Nr. of driver per channel

The maximum number of the MEANWELL LED driver that can be connected to each channel at 230V is shown as below		
Suggested model	KAA-8R-S	KAA-8R-10S
APC-8	22	22
APC-12	11	11
APC-16	18	18
APC-25	11	11
APC-35	11	11
APC-8E	22	22
APC-12E	18	18
APC-16E	15	15
APV-8	22	22
APV-12	11	11
APV-16	18	18
APV-25	11	11
APV-35	11	11
APV-8E	22	22
APV-12E	18	18
APV-16E	15	15
LCM-25	25	25
LCM-40	25	25
LCM-60	25	25
LCM-25DA	25	25
LCM-40DA	25	25
LCM-60DA	25	25
LPC-20	11	11
LPC-35	9	9
LPC-60	8	8
LPC-100	7	7
LPC-150	13	5

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The maximum number of the MEANWELL LED driver that can be connected to each channel at 230V is shown as below		
Suggested model	KAA-8R-S	KAA-8R-10S
LPF-16	18	18
LPF-25	16	16
LPF-40	16	16
LPF-60	9	9
LPF-90	7	7
LPF-16D	18	18
LPF-25D	16	16
LPF-40D	16	16
LPF-60D	9	9
LPF-90D	7	7
LPH-18	16	16
LPHC-18	16	16
LPV-20	11	11
LPV-35	9	9
LPV-60	8	8
LPV-100	7	7
LPV-150	8	8
NPF-40	10	10
NPF-60	10	10
NPF-90	8	8
NPF-120	8	8
NPF-40D	10	10
NPF-60D	10	10
NPF-90D	8	8
NPF-120D	8	8
PCD-16B	80	80
PCD-25B	53	53
PCD-40B	45	45
PCD-60B	26	26
PLC-30	23	23
PLC-45	23	23
PLC-60	23	23
PLC-100	13	13
PLD-16B	40	40
PLD-25	32	32
PLD-40B	32	32
PLD-60B	32	32
PLM-12	53	53
PLM-25	53	53
PLM-40	53	53
PLN-20	23	23
PLN-30	23	23
PLN-45	23	23
PLN-60	23	23
PLN-100	13	13
PLP-30	32	32
PLP-45	27	27
PLP-60	23	23
PWM-40	10	10
PWM-60	10	10
PWM-90	8	8
PWM-120	8	8

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The maximum number of the MEANWELL LED driver that can be connected to each channel at 230V is shown as below		
Suggested model	KAA-8R-S	KAA-8R-10S
HLN-40H	10	10
HLN-60H	9	9
HLN-80H	7	7
HLP-40H	7	7
HLP-60H	9	9
HLP-80H	7	7
CEN-60	22	22
CEN-75	22	22
CEN-100	22	22
CLG-60	23	23
CLG-100	13	13
CLG-150	8	8
ELG-75	10	10
ELG-100	8	8
ELG-150	8	8
ELG-75-C	10	10
ELG-100-C	13	13
ELG-150-C	8	8
HBG-100	8	8
HBG-160	8	8
HBG-240	7	7
HBG-60	18	18
HLG-40H	16	16
HLG-60H	9	9
HLG-80H	7	7
HLG-100H	8	8
HLG-120H	8	8
HLG-150H	8	8
HLG-185H	8	8
HLG-240H	7	5
HLG-320H	7	6
HLG-600H	4	3
HLG-60H-C	8	8
HLG-80H-C	8	8
HLG-120H-C	10	10
HLG-185H-C	9	9
HLG-240H-C	7	7
HLG-320H-C	7	6
HSG-70	9	9
HVG-65	20	20
HVG-100	8	8
HVG-150	8	8
HVG-240	5	5
HVG-320	4	4
HVGC-65	20	20
HVGC-100	8	8
HVGC-150	8	8
HVGC-240	5	5
HVGC-320	4	4

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■ Configuration and Commissioning

The application program(database) can be downloaded via Online Catalogs from ETS or via https://www.meanwell.com//Upload/PDF/KNX_Application%20Database.pdf

It is also used to check the corresponding firmware version that works with database.

※ KNXInterface

・Apply KNX signal between KNX+ and KNX-.
The application program(database) can be downloaded via Online Catalogs from ETS or via http://www.meanwell.com/productCatalog.aspx

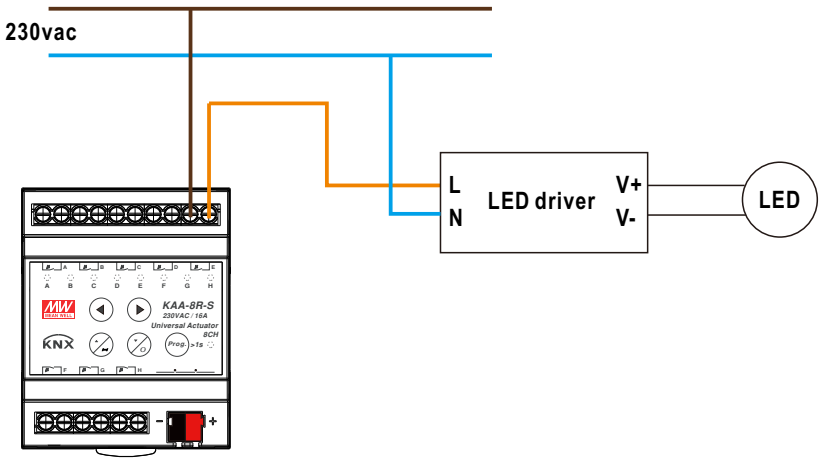
The device is equipped with KNX Data Secure. KNX Data Secure offers protection against manipulation in building automation and can be configured in the ETS project. Detailed specialist knowledge is required. A device certificate, which is attached to the device, is required for the first configuration. After configuration and ready for runtime (daily) operation, it is recommended to remove the certificate from the device and to store it securely. For details, please refer to the instruction manual.

MEAN WELL

Device Certificate

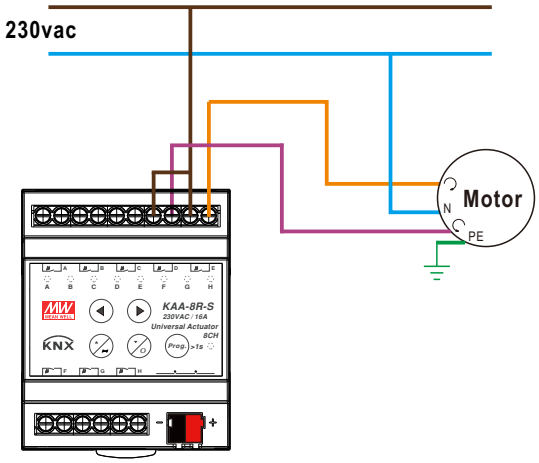
■ Typical application

◎ **Application 1:Work with non-dimmable driver**



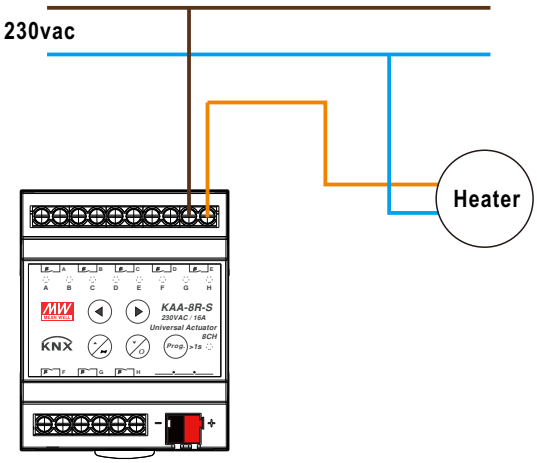
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◎ **Application 2:Work with shutter/blind control**



Note:Check installation manual of shutter motor for wiring.

◎ **Application 3:Work with Heater**



■ Recommended Screwdriver, Wire and Torque Setting

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

■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html

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