

# 1.

## AGL Transformers for Series Circuits

FAA AC 5354-47, L-830/ L-830

EN 61823



An Airfield Ground Lighting (AGL) transformer, also named isolation transformer, is typically installed in series circuits in airport approach line, runway, taxiway and other airport lighting systems to provide right amount of current to the low voltage lights respectively along the circuit and to ensure main circuit continuity in case of light failure.

EFLA's KR500 and KR600 series isolation transformers are brought to the market with total dedication of engineering the most efficient and reliable product to the airfield lighting system. KR500 series offers standard transformer features while KR600 series has special design offering very low leakage inductance on top of the common features, which support single lamp control and more advanced control and monitoring requirements. These isolation transformers can be trusted for top performance not only in normal and friendly operational environment, but also in heavy-duty and extreme conditions in airfield.

EFLA's KR500 and KR600 transformers are certified by FAA and approved by IEC. They also comply with ICAO Annex 14 and several other international standards.

### Main benefits

- Optimum physical size and electrical performance of toroidal structure
- Easy to install by using factory molded connectors
- Galvanic separation provides superior protection for electrical components
- Wide power range offers flexibility and increases lifetime
- Certified and approved by FAA and several other international standards
- **Low leakage inductance for single lamp control and more advanced control monitoring requirements\***

\* Applicable for KR600 series

## With or without earthing

EFLA supplies transformers with or without earthing. If earthing is requested it is connected to the end of the secondary winding in the side of the larger socket.

## Primary leads

- The transformers have two primary leads, standard length 0.6 m, cross section min. 6 mm<sup>2</sup>
- One lead with FAA L-823, style 2 plug
- One lead with FAA L-823, style 9 receptacle

## Secondary leads

- The transformers have one secondary lead of 1.2 m in length with cross section min. 2.5 mm<sup>2</sup> 0.6 kV.
- Secondary lead fitted with a style 8 connector
- Upon request, the transformers can be equipped with other cable sizes and lengths or with a style 7 connector

## Material encapsulation

Thermoplastic elastomer (TPE) is a modern material with excellent electrical and mechanical properties and good chemical resistance to the chemicals typically used at airfields. TPE also has very good resistance to weathering, its insulation withstanding UV-radiation and ozone exposure. The material is also resistant to temperature effects (below 135 °C, 275 °F).

## Pins and sockets

Tin-plated copper or brass for the contact parts, while the socket is supplied with a copper beryllium sleeve-type spring, ensuring adequate contact pressure.

## Isolation transformers – electricity for KR500 and KR600 series

EFLA type with earthing	EFLA type without earthing	Rated power [W]	Rated current [A]	FAA	Type	Power range [W]	Load Ohm	Efficiency %	Power factor
KR621	KR621.1	10/15	6.6/6.6	L-830-16	L-831-16	10 – 15	0.34*	> 70	> 0.97
KR625	KR625.1	20/25	6.6/6.6	L-830-17	L-831-17	20 – 25	0.57*	> 70	> 0.97
KR531	KR531.1	30/45	6.6/6.6	L-830-1	L-831-1	25 – 60	0.57-1.38	> 85	> 0.97
KR631	KR631.1								
KR536	KR536.1	65	6.6/6.6	L-830-3	L-831-3	50 – 85	1.15 -1.95	> 85	> 0.97
KR636	KR636.1								
KR541	KR541.1	100	6.6/6.6	L-830-4	L-831-4	80 – 125	1.84-2.87	> 85	> 0.97
KR641	KR641.1								
KR546	KR546.1	150	6.6/6.6	L-830-18	L-831-18	120 – 178	2.75-4.13	> 90	> 0.97
KR646	KR646.1								
KR551	KR551.1	200	6.6/6.6	L-830-6	L-831-6	160 – 230	3.67-5.28	> 90	> 0.97
KR651	KR651.1								
KR561	KR561.1	300	6.6/6.6	L-830-10	L-831-10	220 – 338	5.05-8.25	> 90	> 0.97
KR661	KR661.1								
KR681	KR681.1	500	6.6/6.6	L-830-14	L-831-14	400 – 523	12.00*	> 90	> 0.97

\* According to FAA AC 150/5345-47

## Leakage inductances

EFLA type with earthing	EFLA type without earthing	Power [W]	Short circuited current [A]	Open circuit voltage [V]	L (magn)	L (leak)
KR621	KR621.1	10/15	< 6.7	< 8	13.0mH	< 20µH
KR625	KR625.1	20/25	< 6.7	< 8	13.0mH	< 20µH
KR631	KR631.1	30/45	< 6.7	< 13	16.0mH	< 30µH
KR636	KR636.1	65	< 6.7	< 16	19.0mH	< 40µH
KR641	KR641.1	100	< 6.7	< 23	14.0mH	< 40µH
KR646	KR646.1	150	< 6.7	< 25	24.0mH	< 50µH
KR651	KR651.1	200	< 6.7	< 41	25.0mH	< 60µH
KR661	KR661.1	300	< 6.7	< 70	35.0mH	< 100µH
KR681	KR681.1	500	< 6.8	< 100	64.0mH	< 130µH