

09/2023

# endrich NEWS

[www.endrich.com](http://www.endrich.com)

## „WE CAN DO IT“



Wolfgang Endrich

The saying and the author are well known. The reason was the stream of refugees who suddenly came to Germany to find work and live in peace under the protection of a democratic state.

We know that this integration has not worked out until today and has failed, for example, because of the resistance of population groups that have strictly rejected mixing with refugees from Afghanistan, from Africa, for racist and other reasons. One of the most nonsensical arguments is that they take jobs away from Germans.

Funny, foreigners are very welcome in Bundesliga soccer clubs. At the same time, we have 2 million unfilled jobs today and no idea who to fill them with.

We have an aging population, the "baby boomers" are retiring, retirement at 64 is possible. There is a large exodus from the labor market. Who should / can fill these jobs? And then there is the idea of a four-day week? Where are the workers supposed to come from?

The opponents of immigration have no solution for this. Perhaps they also don't know that this could also become a very big problem for them, because companies that want to expand will inevitably have to relocate their manufacturing operations abroad, and this threatens layoffs in Germany in the long term, especially in the lower income brackets.

This means that companies are cutting staff and the prosperity of our country is declining. In addition, there is inflation, which was deliberately triggered by the Bundesbank and especially by the European Central Bank under Mr. Draghi in order to bring lending rates to zero and thus to cheaply finance the debt of the southern European countries (Greece, Italy, Spain, Portugal). Fortunately, this has already succeeded in Greece.

Now, lending rates have begun to rise (at the beginning of August 23 the key interest rates were already at 4.25%) and has stifled the construction industry again and forced many home builders to give up their dreams of owning a home to give up for the time being.

Two years ago, German voters made a decision that ultimately led to a traffic light government. Ministerial posts were determined according to proportional representation and not according to expertise. Just think of the former defense minister.

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# endrich

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I wonder if you no longer need experience to be a politician. Every master craftsman has to prove six years of training in his trade, and in the "Ländle" you are not certified as having the necessary maturity and expertise until your 40th birthday.

Some politicians now want to change the electoral law and allow 16-year-olds to vote, some of whom may never have read a newspaper, whose political knowledge is certainly not sound. I am not sure that all young people at 16 know that there is a Basic Law and a three-tier division of powers in the legislative, executive and judiciary!

Some of the salary increases in recent months have reached exorbitant levels, certainly with good reason, because employees and workers have lost considerable purchasing power as a result of inflation, but this will then be reflected conversely in unavoidable price increases and cannot be compensated for in the short term by rationalization measures of any kind.

We all know that we still have an energy gap and have managed to get through the winter reasonably well due to the mild weather. But energy prices have increased enormously and will certainly eat up the higher income.

Our traffic light government wants to appease and promises subsidies. There are massive problems with counter-financing and it is actually not feasible at all because we no longer know who is in need or not as a result of a lack of digitalization in our administration.

Now the tax offices could certainly provide these figures if every German citizen had only one number - the tax number - and computers could be used to determine in minutes who is or is not included in the circle of the needy. To return briefly to the lack of energy: We have energy surpluses due to the wind farms in the North Sea, but we have to export them because we cannot transmit the electric current to the processing industry there due to the lack of lines to the south.

Nuclear power plants were completely closed for ideological reasons, even though we had the safest in the world and all the countries around us - starting with France, through Poland, Belgium, Switzerland, Holland, Hungary, etc. - are currently building new nuclear power plants.

Among other things, because they do not want to bury the nuclear waste at a depth of 4,000 meters in a radiation-proof manner. The question may be asked: Where do our neighboring countries put their nuclear waste? How about the moon?

For many years there has been great opposition to wind turbines for sometimes flimsy reasons. Then, when in some cases the population of the communities was given a share in the yield of the wind turbines, there was only unanimous approval.

So why not do the same for power lines, which urgently need to be built to the south?

In Berlin and Brussels, they are constantly producing laws, probably as a manifestation of the *raison d'être* and occupational therapy of the deputies, which, however, is now forcing medium-sized companies to hire additional employees who have to fulfill the companies' reporting obligations in accordance with the law.

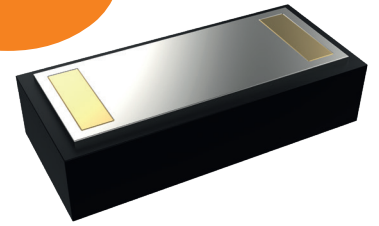
The hopeful words of our Chancellor Scholz, that in the future everything would become better, seems to me under these points of view nevertheless rather doubtful. Voters are becoming increasingly critical and are no longer being lulled into silence!

It would be my heartfelt wish that the politicians in the individual parties would not struggle with their ideologies, but seriously consider how they can quickly and effectively solve the existing problems of our country. And explain more to the voter why one decides how, point out and justify connections.

But this requires economic sense, respect, and not just the right party book, good connections, and ideological blindness.

Wolfgang Endrich

# NEWS



## 100KW HIGH VOLTAGE SMD SUPPRESSION COMPONENT FOR AEROSPACE AND INDUSTRIAL

ProTek Devices has created a high-powered surface mount transient voltage suppression component designed for motor, module, and AC/DC systems such as those in aircraft, to enable equipment circuit protection from damaging effects of high voltage spikes. It is provided in a surface mount package that features a lower profile compared to legacy axial lead package configurations.

More specifically, the new SM100 WE78CA component is ideal for use with relay drives, for motor (start/stop) back EMF protection, with module lightning protection, and with secondary lightning protection for AC/DC systems. The new product is RTCA DO-160G compliant. Technical capabilities include waveforms (pin Injection) 3 and 4 – level 5; waveform 5A – level 6 (2000V/2000A). It also has a low clamping voltage and allows 100 kilowatts peak pulse power per line (typical = 10/1000 microseconds). It permits a bidirectional configuration and easy mounting to a printed circuit board. The rated stand-off voltage is 78V. For other voltages, customers can inquire with ProTek Devices or its distributors. The SM100KWE78CA is also RoHS and REACH compliant.

Parameter	Symbol	Value	Units
Peak Pulse Power (tp= 10/1000 μs)	P <sub>PP</sub>	100	kilowatts
Storage Temperature	T <sub>STG</sub>	-55 to +150	°C
Operating Temperature	T <sub>J</sub>	-55 to +150	°C

Part Number	Rated Stand-Off-Voltage  V <sub>WM</sub> VOLTS	Minimum Breakdown Voltage		Maximum leakage current  @VWM I <sub>D</sub> μA	Maximum clamping voltage  @10/1000 μs V <sub>C</sub> @ I <sub>PP</sub>
		MIN V <sub>(BR)</sub> VOLTS	@I <sub>T</sub> mA		
SM100KWE78CA	78.0	86.7	5	10.0	139V @ 720A

### APPLICATIONS

- Relay Drivers
- Motor (Start/Stop) Back EMF Protection
- Module Lightning Protection
- Secondary Lightning Protection for AC/DC

### FEATURES

- RTCA DO-160G Compliant
- Waveforms (Pin Injection) 3 and 4 - Level 5; Waveform 5A - Level 6 (2000V/2000A)
- Low Clamping Voltage
- 100 kilowatts Peak Pulse Power per Line (tp = 10/1000 μs)
- Bidirectional Configuration
- Molded Surface Mount Package, Easy Mounting to Printed Circuit Board
- Maximum Working Voltage of 78V (Other voltages please consult factory)
- RoHS and REACH Compliant

## SPARKFLEX

Bring flexibility to your design



Audax Electronics proudly introduces its new flex material light engines, focused on high efficiency products and world class quality standards.

### Why use SparkFlex?

The main concept of the SparkFlex portfolio is to deliver design freedom to our customers. Unusual shapes can be created with a wide range of CCTs and colors. Also, due to the reel packaging, a much higher quantity of flex PCBs lengths can be stored when compared to the traditional rigid PCBs.

Unleash your creativity with the new SparkFlex products, by Audax Electronics!

Precision Dimming provides a simplified approach to address the issue of unacceptable LED light output and hue variations when using low-current dimming. Unlike competing solutions that just control forward voltage, Precision Dimming controls forward voltage as well as color rendering metrics, including CRI and TM-30 Rf.



### APPLICATIONS

- Decorative Lighting
- Indoor Lighting
- Specialty Lighting

### FEATURES

- Design Freedom for linear LED systems
- Wide range of CCTs and Colors
- Cuttable each 50.8 mm
- Precision Dimming
- Supplied with Cera THERMALTape®

# NEWS



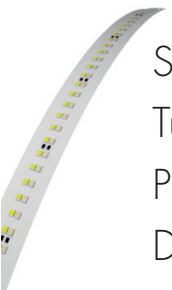
SparkFlex  
Static White  
Precision  
Dimming CC

Part Number	LUM FLUX DENSITY (lm/m)	PER 50.8 mm SEGMENT (lm)	POWER DENSITY (W/m)	Eff. (lm/W)	V <sub>cc</sub> IN (V)	CCT	CRI	#LEDs	#LEDs PER 50.8 mm SEGMENT
80516800100	1345	137	9.2	145	32.4	2700K	90	120	12
80516900100	1414	144	9.2	152	32.4	3000K	90	120	12
80517000100	1483	151	9.2	160	32.4	3500K	90	120	12
80517100100	1529	155	9.2	165	32.4	4000K	90	120	12
80517200100	1529	155	9.2	165	32.4	5000K	90	120	12



SparkFlex  
Static White  
Precision  
Dimming  
24VDC

Part Number	LUM FLUX DENSITY (lm/m)	PER 101.6 mm SEGMENT (lm)	POWER DENSITY (W/m)	Eff. (lm/W)	V <sub>cc</sub> IN (V)	CCT	CRI	#LEDs	#LEDs PER 101.6 mm SEGMENT
80447000100	1345	86	14.1	95	24.0	2700K	90	120	6
80447100100	1414	72	14.1	100	24.0	3000K	90	120	6
80447200100	1483	75	14.1	105	24.0	3500K	90	120	6
80447300100	1529	78	14.1	108	24.0	4000K	90	120	6
80447400100	1529	78	14.1	108	24.0	5000K	90	120	6



SparkFlex  
Tunable White  
Precision  
Dimming CC

Part Number	LUM FLUX DENSITY (lm/m)	PER 101.6 mm SEGMENT (lm)	POWER DENSITY (W/m)	Eff. (lm/W)	V <sub>cc</sub> IN (V)	CCT	CRI	#LEDs	#LEDs PER 101.6mm SEGMENT
80517300100	1345	137	9.2	145	32.4	2700K	90	120	12
	1529	155	9.2	165	32.4	5000K	90	120	12



SparkFlex  
RGB 24VDC

Part Number	LUM INTENSITY (cd/m)	PER 50.8 mm SEGMENT (cd)	POWER DENSITY (W/m)	Eff. (lm/W)	V <sub>cc</sub> IN (V)	CCT	CRI	#LEDs	#LEDs PER 50.8 mm SEGMENT
80498400100	30	1.6	14.1	2	24.0	Red	-	120	6
	118	5.9	14.1	8	24.0	Green	-	120	6
	26	1.4	14.1	2	24.0	Blue	-	120	6



SparkFlex  
RGBW  
24VDC

Part Number	LUM INTENSITY (cd/m)	PER 50.8 mm SEGMENT (cd)	POWER DENSITY (W/m)	Eff. (lm/W)	V <sub>cc</sub> IN (V)	CCT	CRI	#LEDs	#LEDs PER 50.8 mm SEGMENT
80498500100	30	1.6	14.1	2	24.0	Red	-	120	6
	118	5.9	14.1	8	24.0	Green	-	120	6
	26	1.4	14.1	2	24.0	Blue	-	120	6
	129	21.5	14.1	30	24.0	3000K	90	120	6

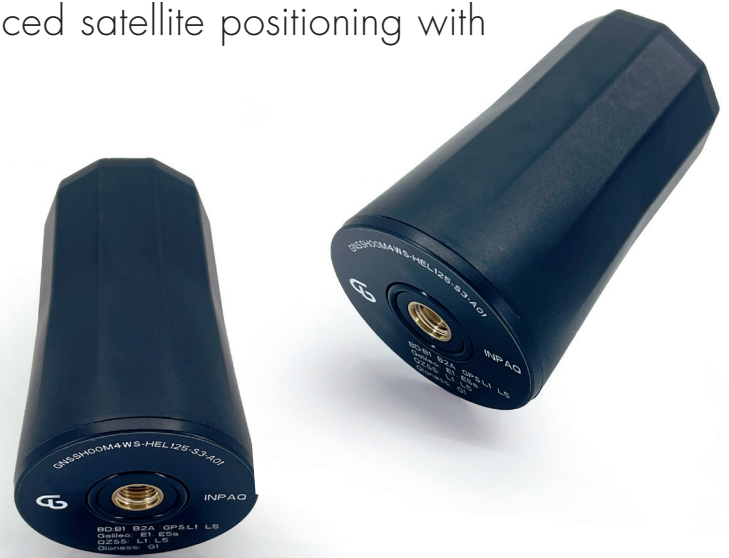
## INPAQ EXTRA LIGHT GNSS DUAL BAND HELIX ANTENNA

Inpaq introduces the innovative helix antenna for enhanced satellite positioning solutions. Experience advanced satellite positioning with Inpaq's lightweight helix antenna.

The new lightweight helix antenna from Inpaq is designed to enable satellite-based positioning in the following areas:

- Smart building / smart city
- Energy management
- Smart agriculture
- Fleet management
- Public transportation
- Telematic systems
- Heavy vehicles and machines

The low-profile multi-band antenna in small form factor offers precise positioning with either GNSS L1/L2 or L1/L5 support and more. The antenna is mounted with screw mount for an easy installation, it withstands salt spray, UV, and high humidity, making it ideal for indoor and outdoor use. The temperature range of -40 °C to +80 °C and the IPX6-grade enclosure ensure reliability under extreme conditions. The weight of 21 grams makes it particularly attractive for light weight applications like drones or vehicles. Customizable cables and connectors enable versatile applications. The antenna optimizes reception throughout a wide angle and is the perfect choice for navigation systems, fleet management, and geodata collection or timing applications.



### FEATURES

- Low profile
- Dimensions: Ø 36.47\*58 mm
- Multi-band antenna
- Screw-mount installation
- Ultra reliable (salt spray, UV, humidity resistant)
- High out of band rejection
- Operating temperature: -40 to +80°C
- Cable and connector customization possible

GNSS Technology	GPS	Galileo	GLONASS	Beidou	QZSS
Antenna Type					
GNSSH00M4WS-HEL125-S3-A00	L1/L2	E1	G1	B1	L1/L2C
GNSSH00M4WS-HEL125-S3-A01	L1/L5	E1/E5b	G1	B1/B2A	-

# NEWS

## CITIZEN HIGH EFFICIENCY LEDS / TYPE Y

Our long-term supplier Citizen Electronics Ltd. has developed a new LED generation of high efficiency COB LEDs called Y-Series in the field of Ra 90. The high efficiency will be achieved by using a special phosphor combination together with the advantages of the standard Vers. 9. The important point is that the package size and LED diameter is the same. Two kind of CRI 90 models are available: on B.B.L. and below B.B.L. Samples are available on request. Mass-production has already started. ENEC and LM 80 reports are available.

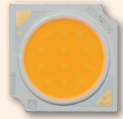
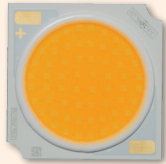
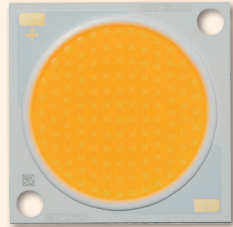
### APPLICATIONS

- Commercial
- Consumer
- Residential

### FEATURES

- Significant lm/W improvement with new Phosphor technology
- Combine higher efficacy and CRI
- Based on Ver.9 platform
- Keep PKG size & LED diameter (02/03/04)
- Two kind of CRI90 model - On BBL / Below BBL

### Product Outline

Ver9 TypeY		CLU02Q-xxxxE1	CLU03Q-xxxxE1	CLU04Q-xxxxE1	Ver9_Standard
Appearance					Reference
PKG size (mm)		13.5x13.5x1.4	19.0x19.0x1.4	28.0x28.0x1.4	-
LED diameter (mm)		Φ 9.7	Φ 14.5	Φ 22.0	-
IF/Die (mA)	Typ	90			←
	Max	160*			↔ 230
VF(V)	Tj85C	12 series: 33.8			←
S/P		12s1p 12s2p 12s3p 12s4p	12s5p 12s6p 12s8p	12s11p 12s12p	-
Tc(C)	Max.	105*			↔ 120
Tj(C)	Max.	120*			↔ 140
Rj-c(C/W)	Typ.	Same as Ver. 9			←

\* TypeY has some limitation on usage condition compared to Version. 9 standard model.

\* When customers consider using Type-Y product with replacing from our conventional models, please examine and study usage condition carefully in advance.

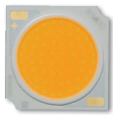
\* There is no CLU05x model with Type-Y.

## CITIZEN HIGH EFFICIENCY LEDS / TYPE Y

Performance improvement

**3000K Ra90**

### Fixed Current Condition



CLU03x-1208xx  
If = 720 mA Tj = 85C

#### Ver.6

Φ v (lm)	LPW (lm/W)
3,095	126

#### Ver.9 (Ra80)

Φ v (lm)	LPW (lm/W)
3,852	157

#### Ver.9 Type-Y

Φ v (lm)	LPW (lm/W)
3,780	155

#### Ver.9

Φ v (lm)	LPW (lm/W)
3,345	137

+13%

+23%

### Efficacy (Compared with Ver.6)

lm/W	2700K B-BBL	3000K B-BBL	3500K B-BBL	2700K	3000K	3500K	4000K	5000K
Version.6	115	120	122	122	126	128	128	-
Version.9	124 (108%)	132 (110%)	139 (114%)	129 (106%)	137 (109%)	142 (111%)	148 (116%)	-
Version.9 Type Y	144 (125%)	153 (128%)	165 (136%)	147 (121%)	155 (123%)	168 (131%)	167 (131%)	166

**CITIZEN**

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