



# Newsletter December 2015



## - NEW - Solid State Relays with Low Electromagnetic Noise Emission

celduc® relais has just launched a new range of EMC optimized Solid State Relays (with low electromagnetic emission - low RFI) :  
« **SON** » range.

These relays are particularly suitable for applications where electromagnetic noise must be limited : household and electrical appliances, information technology and medical equipment.



Reference available : [SON865040](#) (50-500VAC - 50A - Ctrl 5-32VDC)

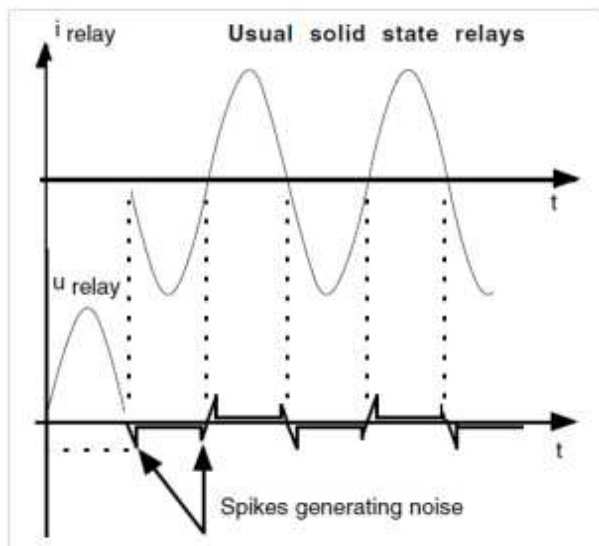
### EMC directive

There are two kinds of appliances:

- Class A appliances designed for industrial environments,
- Class B appliances designed for domestic use.

as well as two kinds of emissions:

- Radiated emissions: low with our standard Solid State Relays,
- Conducted emission noise: with standard Solid State Relays, conducted emission noise is emitted by thyristors and at 150KHz you reach the highest level.



According to the application, applicable European standards are different:

**Main European standards for Electromagnetic Compatibility (EMC) :**

	European standards	Title	International Equivalent
Emission	EN 55011	Requirements for Radio-frequency disturbance characteristics of Industrial, scientific and medical equipment	CISPR 11
	EN 55013	Requirements for radio disturbance characteristics of Sound and television broadcast receivers and associated equipment	CISPR 13
	EN 55014	Requirements for emissions of household appliances, electric tools and similar apparatus	CISPR 14
	EN 55015	Requirements for radio disturbance characteristics of electrical lighting and similar equipment	CISPR 15
	EN 55022	Requirements for Radio disturbance characteristics of Information technology equipment	CISPR 22

For celduc, the major EN standards for Low Electromagnetic Noise Emission are EN55022, EN55011 and EN55014 which represent the main categories for electrical appliances.

**Class A Radiated Emissions Limit :**

Frequency (MHz)	Quasi-Peak Limit (dBµV)	Average value of the limits (dBµV)
0.15 à 0.50	79	66
0.50 à 30	73	60

**Class B Radiated Emissions Limit :**

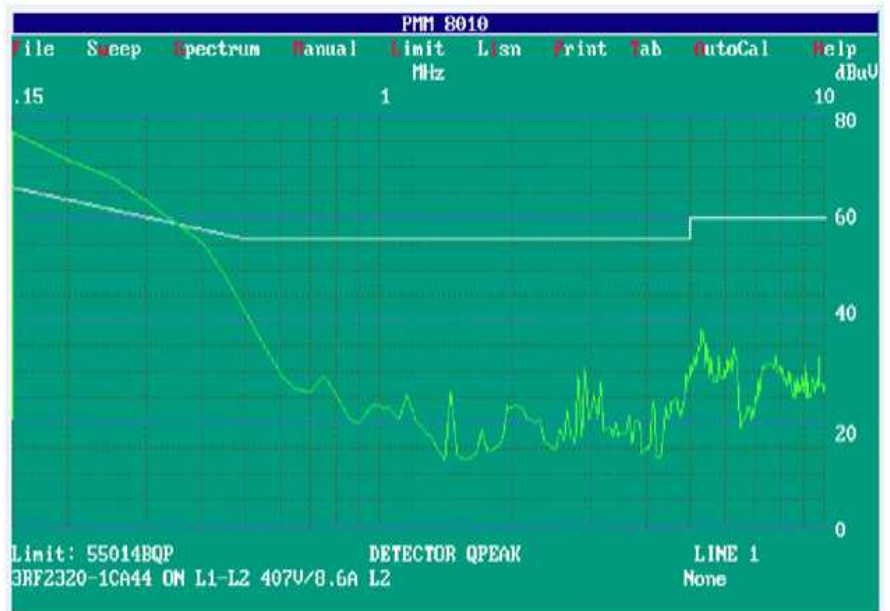
Gamme de Fréquences (MHz)	Limites Quasi-crête (dBµV)	Limites Valeur moyenne (dBµV)
0.15 à 0.50	66 à 56	56 à 46
0.50 à 5	56	46
5 à 30	60	50

At 150Khertz the emitted noise at Quasi-Peak shouldn't exceed:

- 79dBµV for class A appliances
- 66dBµV for class B appliances

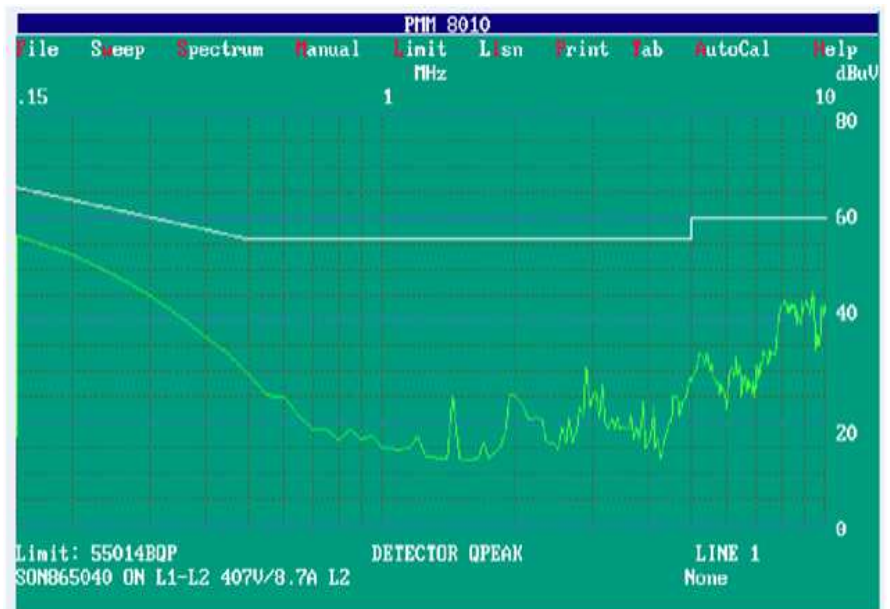
Example of conducted emission noise level for a standard Solid State Relay used to control a resistive load AC-51 8.6A @ 400VAC.  
Tests performed in compliance with EN 55014 in quasi-peak.

We record 78dBµV @ 150Khertz which is acceptable for an industrial application, but not for a domestic use as we are over the limits of 66dBµV.



### Same test performed with our new SON Solid State Relay EMC optimized :

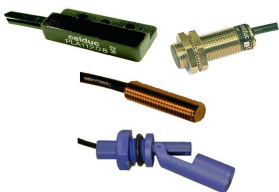
We record a conducted emission noise level of 56db $\mu$ V @ 150Khz which is < 66dBm $\mu$ W



You can find standard « low noise » SSR on the market but those are limited to low switching current of 5A for domestic applications or to low inductive loads, while lots of pure resistive loads applications have high emission noise.

**Our new EMC optimized SON range meets these requirements (Conducted emission noise level < 66dB $\mu$ V) and can control class B appliances on pure resistive loads.**

**Current limits : 40A @ 220V / 27A @ 400V**



## - NEW - Magnetic proximity sensor with 2 normally open contacts

A new magnetic proximity sensor with 2 normally open contacts **(2 NO)** has been created.

Part number : [PS2A0020](#)



## Office closed for Christmas & New year

Please note that celduc® relais will be closed on the **25th of December** and on the **31st of December & 1st of January**.

We wish everyone a happy and healthy Christmas and a prosperous New Year!

## Exhibition - January 2016

We are pleased to inform you that celduc products will be presented at the following exhibition :

### -SEMICON - Seoul - KOREA

From the 27th to 29th of January 2016

Exhibitor : celduc relais / C&L Korea

[Website](#)



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