

BEKA wishes to introduce to its clients the new generation of Power Switch units, the

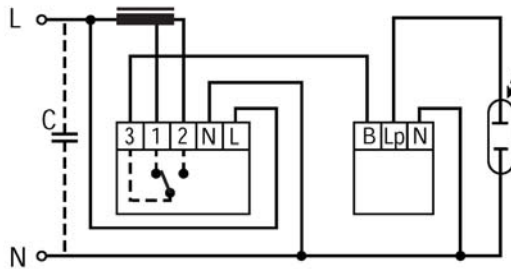
Timed Power Switch.

The *Timed Power Switch* differs from the previous Power Switch version, in that it has an incorporated timer, which alleviates the necessity of an external control wire.

Let us recall the workings of a *Power Switch*:

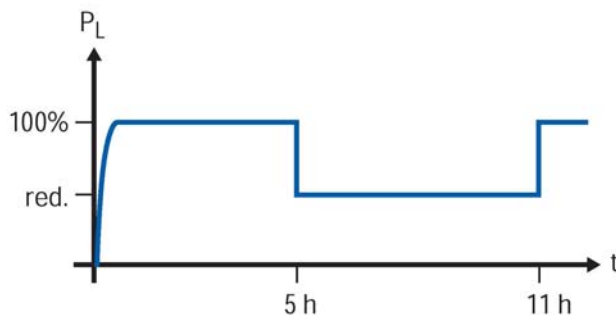
A Power Switch is an electronic device, which switches the impedance of the ballast from the nominal rating of typically 400W to 250W. In the process the lamp reduces the light output and the power consumption. In the past the switching was triggered by a control wire, which, by applying either 0V or 230V, switched the status of the light accordingly. The disadvantage of this system was the more expensive costs for the additional control wire, which had to be provided inside the supply cable.

However, with the new generation of Timed Power Switch, the circuitry is as follows:



One can see that no external wiring is provided.

The timed switching functions are as follows:



- 5 hours after switch-on the light output is reduced from 100% to 50%
- 11 hours after switch-on the light output is increased from 50% up to 100% again until switch-off.

The timer starts its operation from switch-on.

The behaviour of the Timed Power Switch at power interruptions is as follows:

- The Timed Power Switch detects short mains interruptions between 3 to 15 seconds without starting the timing sequence from zero. In other words: The threshold is somewhere between 3sec and 15 sec. It depends on the actual mains voltage at the moment when the mains voltage is interrupted.
- However, if the mains interruption is longer than this period the *Timed Power Switch* is starting the sequence from zero again.
- If the lamp is in the 5h to 11h period, where it operates at 50%, and the power is interrupted for up to 3 to 15 seconds causing the lamp to extinguish, and the *Timed Power Switch* does not start from zero again, then the lamp will restart at full load and remains so for 3 minutes, before it “falls back” to a 50% operation. This ensures that the lamp starts at full power, therefore providing the correct physical conditions inside the lamp burner during the start-up phase.

Power Reduction Table:

LAMP WATTAGE	LAMP TYPE	LUMINOUS FLUX, %	LAMP CURRENT, A		CORRECTED LINE CURRENT, A		CIRCUIT POWER, W	
			A		A		W	
			FULL	REDUCED	FULL	REDUCED	FULL	REDUCED
250	MBF	ca 40	2,15	1,15	1,29	0,67	274	136
250	SON	ca 50	3,00	2,80	1,30	0,85	271	175
400	MBF	ca 50	3,25	2,15	2,05	1,16	427	267
400	SON	ca 45	4,45	3,20	2,00	1,20	435	235

Due to the compelling advantages of this technology, BEKA wishes to promote this *Timed Power Switch* for all 400W HPS street light applications, whether it is a new or an existing installation. It should also be considered for 250W HPS.