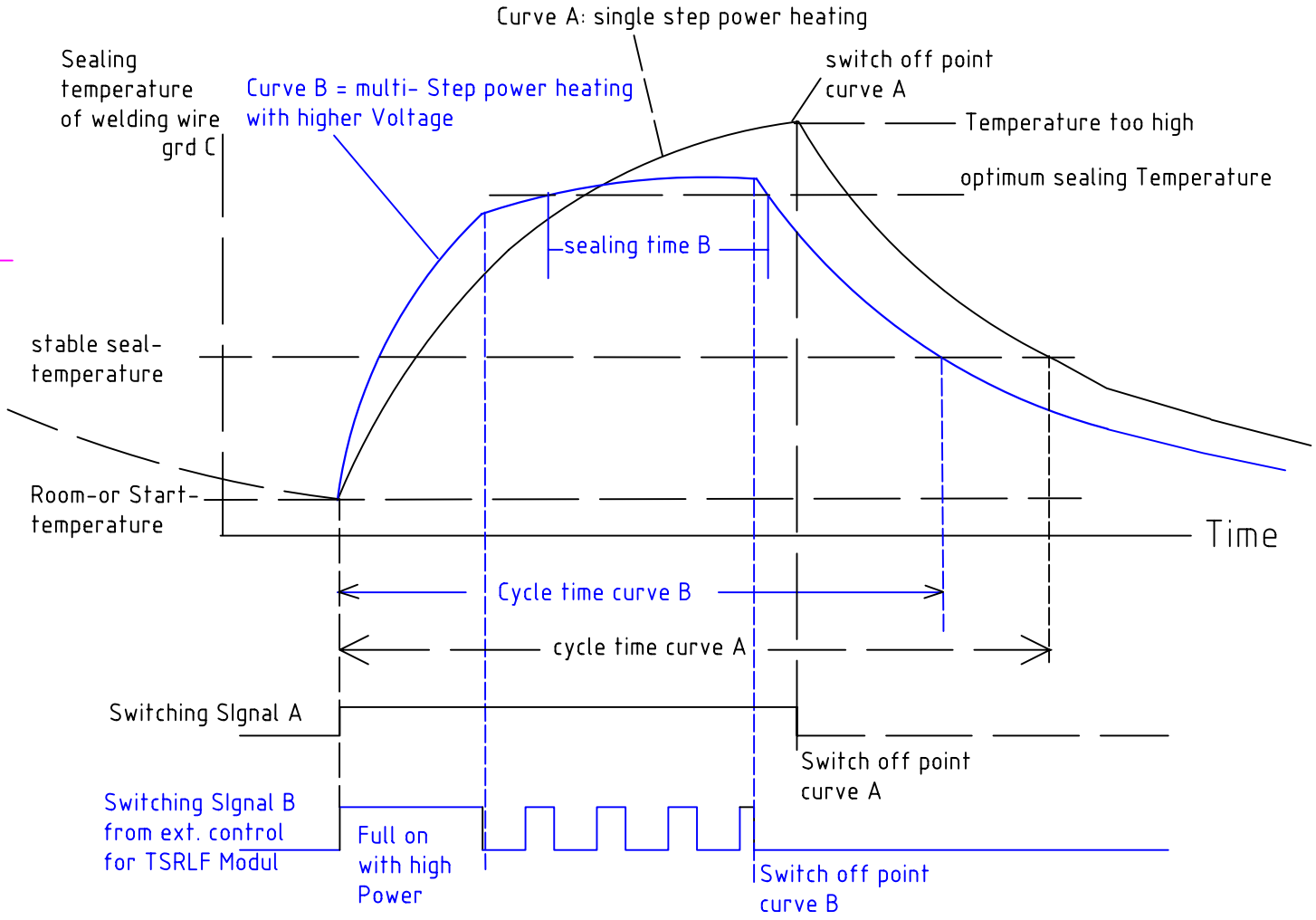
Impuls-welding control "B" for Packaging Machinery, --works with variable heating power.

Foil packaging machines are not always equipped with electronic measuring and control of the temperatur of the sealing wire. Good sealing quality can be obtained using resonable low-priced electronic.
A time dependent single setting heating electronic can produce good results using the time setting with constant heating power. See curve A below. However the welding time must be continuosly be reset after some sealing operations, as the welding temperature does not always remain constant.

A novel impulse welding control unit results in the following improvements, see curve B below:
1.) Faster heat up, with shorter heat up time, due to greater transformer voltage,
2.) No overshooting of the welding temperature as the heating power is reduced after time depend heating up,
3.) A reduction in the heatup temperature and therefor a better control of the welding temperature
4.) due to reduced overheating, a reduced cycle time results.

Curve B: First the heating transformer is switched fully on, resulting in a fast heat up time. Then the heating transformer is operated in a pulsed mode so as to maintain the temperature. Using a Dip Switch, the heatup time can be set to one of four values. The pulse - pause proportion can be adjusted contuinously using a potentiometer.

Graphical representation of the temperature course of a sealing operation



Switching control signal B comes either from any external control element like SPC and controls the TSRLF - Transformer switching module, or the printboard named ZPGS, switches the transformer itself with showed procedure. Both electronic moduls are availably from FSM elektronik

Using a patented transformer switching procedure it is possible to frequently switch on and off the welding transformer in a pulse mode without bothersome inrush currents arising.

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SEALING-CONTROL-B

IMP__SWZ1E.DWG | Ausgabe 1 | Blatt 1