

## Power Supplies



### MAGPULS Pulse Power Supplies

Magpuls Pulse Power supplies provide highest flexibility and supreme performance for plasma nitriding processes, bias applications and magnetron sputtering including ambitious reactive and HIPIMS processes.

The MAGPULS Unipolar and Bipolar Pulse Power Supply series MP 1, MP 2 and MP 2 – HC are constructed in two separate units. One unit is the DC power supply which provides the DC power into the big capacitor bank of the pulse unit and the pulse unit with the integrated sophisticated ARC management.

The MP 2 – AS family follows the same design principle, but needs two separate DC power supplies to make the asymmetric pulse feature possible.

Depending on model and application the power supplies are available with peak currents of up to 1500 A (MP 2 – HC) and with up to 8 adjustable pulse wave forms (MP 2 – AS). The DC power is in the range of 6 – 75 kW. Higher power available up on request.

The duty cycle can be adjusted within the range from 0.002% up to 99.998% and for the bipolar MP 2 family is individually adjustable for each half wave. The new MAGPULS enhanced ARC management provides best coating results without process interruptions.

Optional the all MAGPULS power supplies are provided with an external optical input interface for external controlling of the pulse times as well as an optical output interface for triggering or synchronization of other unipolar or bipolar pulse power supplies of the MP 1 and MP 2 series.

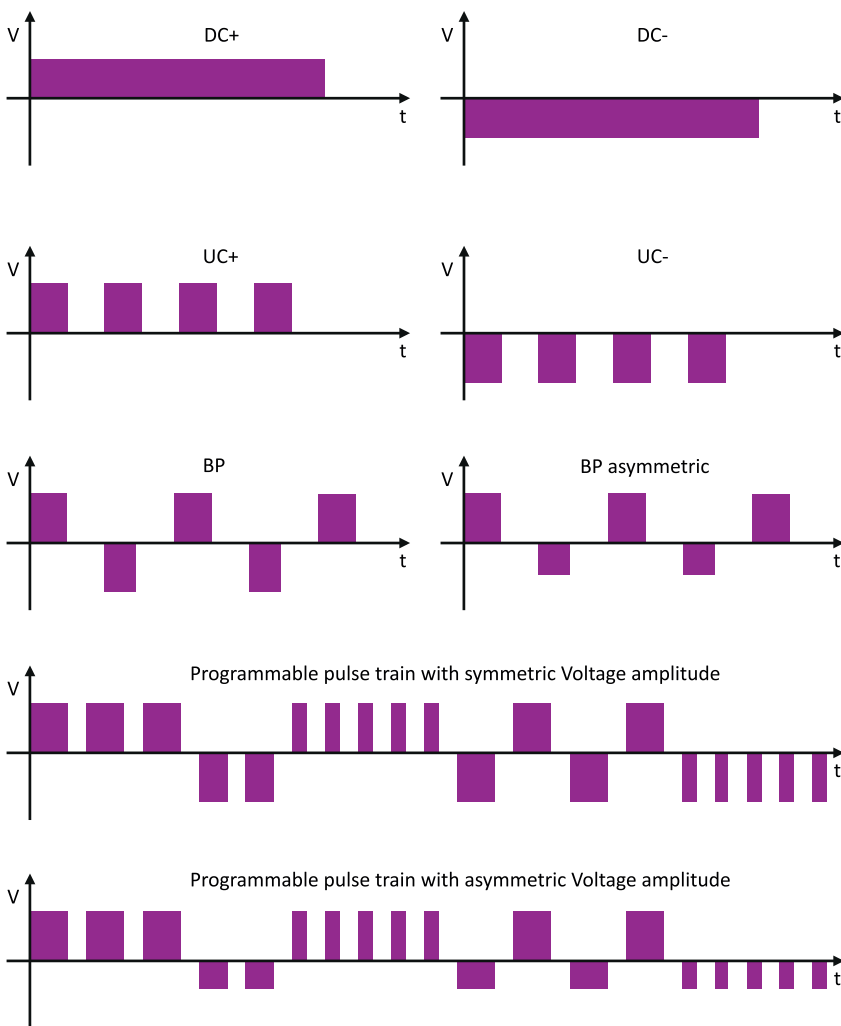
#### COMMON FEATURES

- up to 8 different operating modes depending on model including DC mode.
- Adjustable pulse parameters and frequency
- Enhanced Arc Management

#### COMMON BENEFITS

- Universal Application range with one power supply
- Optimum adjustment of process and high process stability.
- Best Arc suppression and lowest Arc energy for best performance

## Up to 8 adjustable pulse wave forms



### Overview

| Mode*                        | DC+ | UP+ | DC- | UP- | BP | BP-AS | PPT | PPT-AS |
|------------------------------|-----|-----|-----|-----|----|-------|-----|--------|
| Pulse Power Supply Type      |     |     |     |     |    |       |     |        |
| MP 1 Unipolar                | ✓   | ✓   | -   | -   | -  | -     | -   | -      |
| MP 2 Bipolar                 | ✓   | ✓   | ✓   | ✓   | ✓  | -     | ✓   | -      |
| MP 2 – AS Bipolar Asymmetric | ✓   | ✓   | ✓   | ✓   | ✓  | ✓     | ✓   | ✓      |
| MP 2 – HC Bipolar HIPIMS     | ✓   | ✓   | ✓   | ✓   | ✓  | -     | ✓   | -      |

\*refer to diagram above, AS = asymmetric, PPT = programmable pulse train, ✓ = mode available