

**Data Sheet**  
**Fast Diode Current Modulator MCM 20-25-z**

**Features**

- Drives arbitrary current waveforms into laser diodes
- CW, pulsed, modulated or arbitrary curves
- External trigger input, internal pulse generator
- Short rise and fall time
- Two analog hardware inputs plus software BIAS current
- Serial interface for configuration, controlling and monitoring

**Specification**

|                         |                           |
|-------------------------|---------------------------|
| Diode current CW        | 0 ... 20A                 |
| Diode current pulsed    | 0 ... 40A (short pulses)  |
| Diode voltage           | 1 ... 22,5V               |
| Output power            | 460W                      |
| Power dissipation       | 60W max allowed           |
| Supply voltage          | 3,5 ... 24,5V             |
| Supply current          | max 21A                   |
| Rise time / Fall time   | 6µs / 6µs (@100% current) |
| Frequency (set point 1) | max 80kHz                 |
| Frequency (set point 2) | max 80kHz                 |

**Signal Inputs / Outputs**

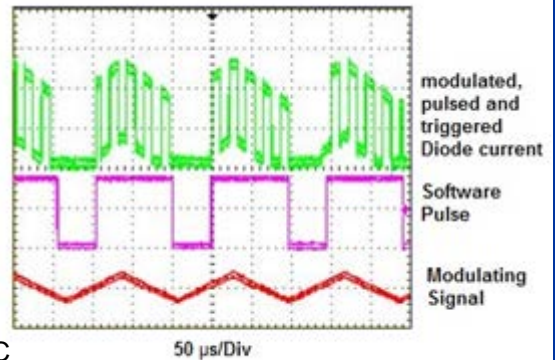
|                                 |                                   |
|---------------------------------|-----------------------------------|
| Diode current set point 1       | 0 ... 500mV (50 Ohm input)        |
| Diode current set point 1 pulse | 0 ... 1000mV (50 Ohm input)       |
| Diode current set point 2       | 0 ... 5V (high impedance)         |
| Enable & Reset / Trigger        | Open Collector / TTL              |
| Diode current monitor           | 0 ... 2,5V                        |
| Temperature                     | 1863,9mV ... 919mV for 0 ... 80°C |
| Ready                           | Open Collector                    |

**General Specifications**

|                     |                |                        |                     |
|---------------------|----------------|------------------------|---------------------|
| Ambient temperature | 0 ... +45°C    | Temperature drift      | ±250ppm / °C        |
| Cooling             | Required       | Frequency bandwidth DC | 93kHz (set point 1) |
| Dimensions          | 87 x 72 x 41mm | Frequency bandwidth DC | 68kHz (set point 2) |
| Weight              | 220g           | Accuracy               | ± 0,2%              |
|                     |                | Internal DA-converter  | 12-bit              |

**Description**

The diode current modulator MCM 20-25-z is a linear modulator with excellent properties for driving arbitrary current waveforms or pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 80 kHz and currents up to 20A for CW and 40A for short pulsed waveforms. An internal pulse generator and an external trigger input generate fast and clean pulses. The modulator is small and compact and it is designed for mounting with low inductance at laser diodes or for integration in laser diode modules. It has two hardware analogue inputs for the current set point and one software BIAS current set point. All set points are added and build the effective current set point. Configuration, controlling and monitoring with PC, notebook or tablet.



| Type        | Interface | Order Code |
|-------------|-----------|------------|
| MCM 20-25-U | USB       | 10100556   |
| MCM 20-25-R | RS 232    | 10100571   |



**Warning!**  
**Risk of exposure of hazardous laser radiation**  
**in combination with laser light emitting devices!**

Technical subjects to change without notice.

|                       |                        |                     |
|-----------------------|------------------------|---------------------|
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