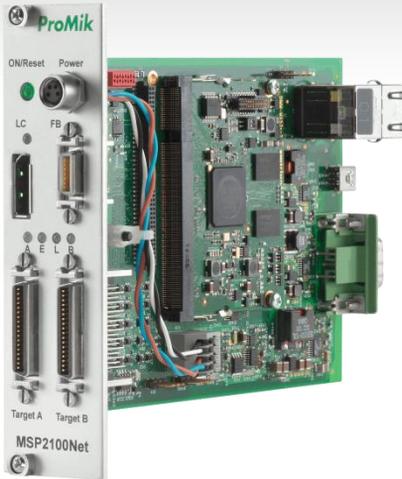


# MSP2100NET

Multi Standard Programmer  
High Performance Modular Production In-Line Programming System  
for Very High Speed Multiple Port Parallel Programming



MSP2100NET – R1



MSP2100NET Desktop Version



MSP2100NET 19" Rack Version

## Overview

Development target for this multi-functional FLASH programming unit has to provide the electronic manufacturers with an equipment that is predominantly used in mass production for all areas of onboard FLASH programming.

Consequently the key criteria for this device are:

- Modular concept for 19" rack integration
- Configurable multi-channel interface structure
- Physical-Flash-Speed Programming (PFSP)
- On board high target power supply
- Comfortable software for safe and easy integration
- Compatibility to ProMik's tool chain
- Unquestioned high programming quality output

Considering these development targets, the MSP2100NET is qualified for any kind of on board programming in high volume production. Applying intelligent methodologies, this device provides additional cost savings in the production cycle, by significantly reduced FLASH programming times.

## Key Features

- Multi Standard Programmer with configurable I/Os supporting multiple **Very High Speed** interfaces (BDM, JTAG, SPI, SCI, I<sup>2</sup>C...) with individual ground return lines for each signal
- Dedicated connector for BroadR-Reach, CAN and LIN interfaces
- USB 2.0 High Speed interface
- Onboard SD-Card slot
- Intelligent communication techniques exploiting the physical minimum programming time of a single flash cell
- Integrated Operating system enabling high efficient file handling
- Software controlled onboard high current target power supply
- Fast Ethernet interface 10/100 M-Bit/s (auto-sensing speed and full/half duplex mode, auto cross-over capability)
- Achieves lowest production costs for demanding applications that include high-density MCU, NAND and NOR memories, like: Car Multi-media, Infotainment, Instrument clusters, Driver information platforms, Navigation systems

## Software solutions

- Please see our separate datasheets for our comprehensive software solutions:
- WinStarNET (for Desktop MSP2100NET)
- Winp\_onlineNET(DLL)
- FlashTASK

## Technical Data

### Data Transfer Rates to Target

Protocol	Speed	Cable Length
JTAG	50 MHz	1.5m
SPI	25 MHz	1.5m
I <sup>2</sup> C	400 kHz	3m
CAN	1 Mbit/s	10m
BroadR-Reach	100 Mbit/s	10m

### Electrical Data

- Power supply: 15 V DC
- Current consumption: typ. 180mA (no target connected)  
max. 4A (full target power)
- Temperature range: 0..50°C
- Programming target interface
  - Max. allowed voltage at the analog input, switched on  $0 < U < 5.5V$
  - Absolute voltage limit on the I/O signal lines while switched off:  $U_{max} \pm 40V$
- I/O Voltage range for the digital in-/outputs
  - 2.7 – 5.5V (internal voltage source)
  - 1.2 – 5.5V (external voltage source)
- $U_{mod}$  power supply data
  - Output voltage: 2.8 – 5.5V; adjustable
  - $U_{mod}$  current: max 500mA
- $V_{pp}$  power supply data
  - The current is first limited, then turned off after 1-2s, until the hardware reaches the normal temperature range, then turned on again, cycling on/off if the short circuit persists.
  - $V_{pp}$ : 2.7 -13.5V; adjustable  $I_{pp}$ : 1.5A permanently
  - Tolerant inrush current: max. 4A; adjustable
  - Inrush current time limit: 7ms – 500ms; adjustable
  - Short-circuit output current: equals inrush current limit

## MSP2100NET-Rack Technical Data

- Accommodates up to 10 x MSP2100NET-R1 modules in a standard 19" rack with integrated power supply to control and monitor targets power supply.
- Integrated Ethernet switch and power supply for programmers
- Rear panel connections: 100-240 VAC and Ethernet RJ45 host interface
- Rack enclosure standard dimensions  
482 x 132 x 348 mm

### Mechanical Dimensions

The following data applies to the MSP2100NET-R1 with front panel including the CPU module but without enclosure:  
Size: 160 x 100 x 35mm      Weight: 160g  
The MSP2100NET-R1 is a standard 7BU unit for a 19 inch sub-rack.