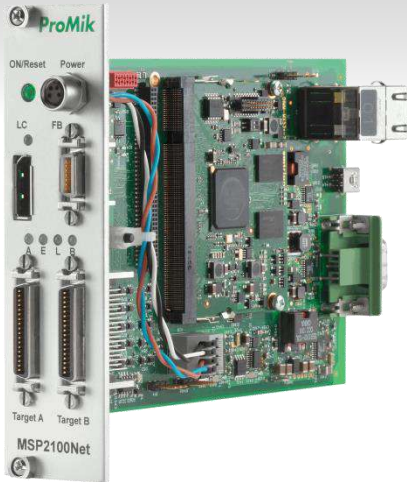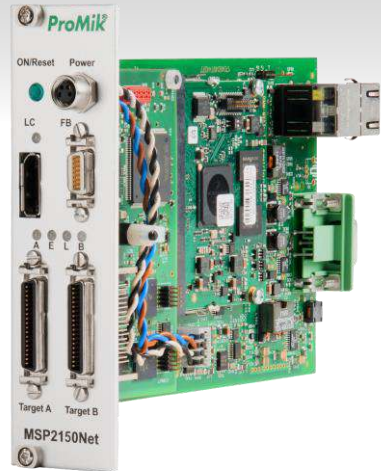# MSP2100/2150NET

ProMik®
Trusted Solutions

Multi Standard Programmer with embedded LINUX Platform
High Performance Modular Production Programming System for High Speed
Multiple Parallel Programming

MSP2100NET - R

Field Bus Module

MSP2150NET- R

MSP2100NET 19" Rack Version

MSP2100/2150NET

Overview

Development target for this multi-functional FLASH programming unit was to provide the electronic manufacturers with an equipment that is predominantly used in mass production for all areas of onboard FLASH programming. Consequentially the key criteria for this device are:

- Embedded Linux Platform
- 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 MSP2100/2150NET 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^2C…) with individual ground return lines for each signal
- Dedicated connector for CAN and LIN (MSP2100NET) Additional interfaces CAN-FD, BroadR-Reach and FlexRay require plug-in **Field Bus Module** (MSP2150NET)
- USB 2.0 High Speed interface
- Onboard SD-Card slot
- Intelligent communication techniques taking advantage of 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, Key applications

Software solutions

- Please see our separate datasheets for our comprehensive software solutions:
- FlashTask Pro - SAP
- FlashTask Pro - IFL
- FlashTask Pro - DLL

Technical Data

Data Transfer Rates to Target

Protocol	Speed	Cable Length
JTAG	50 MHz	1.5m
SPI	25 MHz	1.5m
I^2C	400 kHz	3m
CAN	1 Mbit/s	10m
CAN-FD	10 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. 3.5A; 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 MSP2100/2150NET-R 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 MSP2100/2150NET-R1 with front panel including the CPU module but without enclosure:
Size:160 x 100 x 35mm   Weight: 160g
The MSP2100/2150NET-R1 is a standard 7BU unit for a 19 inch sub-rack.