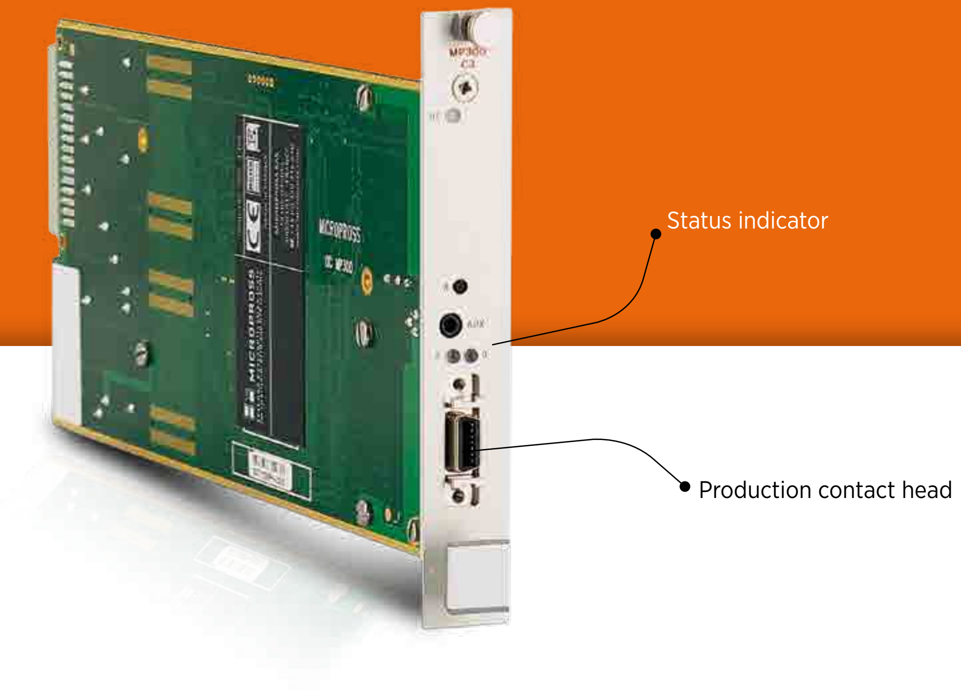
MICROPROSS
A National Instruments Company

MP300 C3

A MULTIPROTOCOL CONTACT TESTER



SUPPORTED PROTOCOLS:

- ISO 7816
- SWP
- USB 2.0

APPLICATION FIELDS:

- Personalization
- Pre-personalization
- OS loading
- Electrical testing

ELECTRICAL TESTS COVERED:

- Open/Short
- Leakage current
- Chip consumption
- Drivability
- Current & voltage
- SWP S2 current value
- Vforce/Iforce
- Accurate definition of the test-conditions

Business areas

Telecom
Banking
E-health
M2M
USB sticks
NFC enabled U-SIM
Contact micro-module

KEY POINTS

- Possibility to install up to 4 MP300 C3 modules on the same mother board
- Support of the ISO/IEC 7816-3 and – 4 protocols
- Full implementation of the T=0 and T=1 protocols
- Support of numerous memory chips
- Open for implementation of custom protocols
- Support of the fastest smartcards
- Fast hardware assisted data transmission mechanism, ensuring the maximum throughput for CPU and memory modules
- Advanced electrical test and measurement features (open/short, leakage, chip consumption, ...)

SUPPORTED PROTOCOLS

▸ **ISO/IEC 7816**	
T=0 and T=1 protocols	100% implemented, managed by firmware and FPGA, accelerated by hardware
▸ **USB 2.0 (optionnal)**	
Available speeds	Low speed, full speed
Classes	ISO/IEC 7816-12, mass storage, custom protocols
▸ **SWP (ETSI TS 102 613 and TS 102 622) (optionnal)**	
SWP transmission	Assisted by hardware
LLC layers support	ACT, CLT and S-HDLC realised by firmware
▸ **Synchronous chips (memory chips)**	
▸ **Raw mode : implementation of custom protocols and support of out of standard chips**	

PROGRAMMABLE PARAMETERS

PHYSICAL PARAMETERS	
▸ **Voltages**	
Vcc, Vol, Voh, Vil, Vih adjustables	
▸ **Frequency**	
ISO 7816 and MMC/SD clock frequency	10kHz to 20MHz (duty cycle adjustable between 30% and 70%)
▸ **Pin states : all pins are managed separately**	

ISO 7816 COMMUNICATION PARAMETERS

▸ **SWP communication parameters**	
Available baudrates	106, 212, 424, 848 kbit/s, 1.6Mbit/s
Adjustable parameters	Activation time, P2, P3, S2 current detection level

AVAILABLE TESTS

ELECTRICAL TESTS
Open/short test (all contacts, forced current adjustable)
Leakage current measurement (all contacts)
Voltage measurement (all contacts, static & dynamic modes)
Current measurement (all contacts, static & dynamic modes)
Parametric tests (V=f(I), I=f(V))
SWP specific measurement functions (statistics on SWP C2 current values)
Anti tearing test (simulate the chip's immunity against tearing from the reader)
Timing measurement
Personalization assisted by hardware

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