

WiFi (WLAN) Connection

Data Sheet Version 2.8

imc measurement devices can optionally be equipped with WLAN-adapters installed inside, which provide an alternative wireless network connection. This can be especially useful in such applications as mobile test drives (particularly in conjunction with imc LINK) or in other applications similar to telemetry on moving components. Also with highly insulated "island"-installations, e.g. a high-voltage conducting train pantograph, it is possible to set up a highly-insulated measurement system using WLAN.



imc measurement devices having serial numbers <190000 can be equipped with WLAN-adapters conforming to the standard IEEE 802.11g ("Draft-g"), which achieve maximum gross transfer rates of 54 Mbit/s.

(Only) imc measurement devices having serial numbers > 190000 allow optional installation of WLAN-adapters conforming to the "newest" standard IEEE 802.11n ("Draft-n"), which enables higher data rates by means of multiple antennas. Two externally connectable antennas are supported (standard SMA-terminal), which together can achieve a data rate of 300 Mbit/s.

Order code:	Article number	
CRFX/400-WLAN-I	1190035	IEEE 802.11g (1 antenna)
CRFX/400-WLAN-I-ET	1191068	
CRFX/2000-WLAN-I	1190061	IEEE 802.11g (1 antenna)
CRFX/2000G-WLAN-I-ET	1191060	IEEE 802.11n (2 antennas)
CRC/WLAN-I	1170040	
CRC/WLAN-I-ET	1171047	
CRSL/WLAN-I	1180048	
CRPL/WLAN-I	1080198	not for CRPL-2 and CRPL-3
CRPL/WLAN-I-ET	1081131	not for CRPL-2-ET and CRPL-3-ET
SPAR/WLAN-I	1130046	
SPAR/WLAN-I-ET	1131024	
C/WLAN-I	1400054	
C/WLAN-I-ET	1410xxx	
BUSDAQ/WLAN-I	1040032	only imc BUSDAQ-X
BUSDAQ/WLAN-I-ET	1041018	only imc BUSDAQ-X-ET

Structure imc WLAN-I:

- Built-in, the integrated device expansion with external antenna occupying no additional slot
With this WLAN option the device will be equipped with a CF-slot for storage media (no PCMCIA available).

Operating conditions for imc WLAN-I:

Storage temperature:	-40°C to 125°C	
Operating temperature range (standard):	-10°C to 55°C	no condensation
Extended environmental range (optional):	-40°C to 85°C	condensation allowed

Additional power requirements (WLAN-I): 1.5 W

Optional expansion: WLAN plug-in-card

- A WLAN plug-in-card (IEEE 802.11b / 11 MBit) can be installed in a free Compact Flash (CF) data carrier slot (only available in the temperature range 0°C to 50°C). This optional WLAN plug-in-card can only be used with devices with s/n13xxxx, s/n14xxxx or the device with s/n12xxxx require a adapter.

Access-points:

For stable operation at high transfer rates, an access point on the PC side is required.

- **Access-points supported:**

- At this time, there are no known access points which are not supported.

- **The following access points have been tested successfully:**

- NETGEAR WG102
- Netgear WAG102
- D-Link DWL-G700 AP
- LevelOne WAP-0003

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Technical Specs for imc WLAN-I:

Data Sheet Version 2.8

Parameter	Value (typ./ max)	Remarks
Data Link Protocol	IEEE 802.11b, IEEE 802.11g IEEE 802.11e IEEE 802.11n WMM	CRFX-2000G (2 antennas)
RF output power	+ 17 dBm +17 dBm (6 – 26 Mbit/s) +15 dBm (48 – 54 Mbit/s)	IEEE 802.11b, IEEE 802.11g WiFi certified, Bluetooth coexistence
Receiver sensitivity	-87 dBm (11Mbit/s) -74 dBm (54 Mbit/s)	Ad-Hoc ¹ managed ²
Transfer rate	≤ 54 Mbit/s	devices with s/n13xxxx, s/n14xxxx, s/n16xxxx and s/n19xxxx delivered as of 01.07.2012 support 54 Mbit/s ³ as of imc DEVICES Version 2.7 R3 SP13 do not downdate those devices with this WLAN connection to an earlier software version
Network type	Ad-Hoc, managed	
Encryption	WEP to 104 Bit WPA-PSK TKIP/RC4 WPA2-PSK CCMP/AES	open system (8 to 63 characters) ² (8 to 63 characters) ²
Output frequency	2.402 – 2.480 GHz, ISM band	
Power consumption	1.5 W	

¹ transfer rate <300 kSamples/s, depending on PC hardware configuration

² Access Point required

³ a new dialog in the imc operating software (IF-config) enable the setting of the transfer rate