

규 격 서

COMMODITY DESCRIPTION

관세분류번호 CCCN NO.	품목번호 ITEM NO.	품 명 DESCRIPTION	단위 UNIT	수 량 Q'TY
9030.84		생체신호측정 메인 모듈 MP160WSW	set	1

A. Features

1. 16 bit resolution: Able to resolve signal variations with extreme accuracy.
2. 16 analog inputs: Collect data from 1 to 16 different signal sources simultaneously.
3. 16 digital I/O lines: Digital lines are provided for the monitoring and/or outputting of digital information.
4. 2 analog outputs: Output can be simultaneous with data collections, allowing stimulus-response measurement.
5. Isolated external unit: Offer a high degree of safety for humans and animals. Removes noise interference.
6. Transmission type : Ethernet
7. Various trigger mode: Data collection can be synchronized to external events or to selected channel's predefined threshold level.
8. Ethernet connectivity
9. View and control system across a network : control experiment away the Lab

B. Specifications

1. MP160 SYSTEM SPECIFICATIONS

1 set

1). Analog inputs

- .Number of Channels: 16
- .Absolute Maximum Input: ± 15 V
- .Operational Input Voltage: ± 10 V
- .A/D Resolution: 16 Bits
- .Accuracy (% of FSR): ± 0.003
- .Input impedance: 1.0 M Ω

2). Analog outputs

- .Number of Channels: 2
- .Max output with acquisition: 2 channels
- .Output Voltage Range: ± 10 V
- .D/A Resolution: 16 bits
- .Accuracy (% of FSR): ± 0.003
- .Output Drive Current: ± 5 mA (max)
- .Output Impedance: 100 Ω

3). Digital I/D

- .Number of Channels: 16
- .Voltage Levels: TTL, CMOS

- .Digital I/O Logic Type: CMOS
- .Input Voltage Range: -0.5 V to 5.5 V (max)
- .Input Clamp Current: ± 20 mA (max)
- .Output Drive Current: ± 20 mA (max)
- .External Trigger Input: TTL, CMOS compatible-See also: External Trigger Inputs
- 4). Time base
 - .Min Sample Rate: 2 samples/hour
 - .Trigger Options: Internal, External or Signal Level
- 5). Power
 - .Amplifier Module Isolation: Provided by the MP unit, isolated clean power
 - .CE Marking: EC Low Voltage and EMC Directives
 - .Leakage current: <8 μ A (Normal), <400 μ A (Single Fault)
 - .Fuse: 2 A (fast blow)
- 6). Device specs
 - .Max Sample Rate
 - MP Internal Memory: 200 K samples/sec (400 K aggregate)
 - PC Memory/Disk: 200 K samples/sec (400 K aggregate)
 - .Internal Buffer: 6 M samples
 - .Waveform Output Buffer: 500 K samples
 - .Serial Interface Type/Rate: Ethernet: UDP (10M bits/sec)
 - .Transmission Type: Ethernet
 - .Maximum cable length: 100 meters (Ethernet cable)
 - .Power Requirements: 12 VDC @ 2 amp (uses AC150A)
 - .Dimensions: 10 cm x 11 cm x 19 cm
 - .Weight: 1.0 kg
 - .Operating Temperature Range: 0-70 $^{\circ}$ C
 - .Operating Humidity Range: 0-95%
 - .Software Compatibility: AcqKnowledge 5 and higher only (MP160 is not compatible with earlier AcqKnowledge versions) OS Compatibility | 64-bit architecture—requires a 64-bit operating system
 - . Ethernet Interface
 - Windows: Microsoft® Windows® 10 64-bit, Windows 8.1 64-bit, and 7 64-bit supported (32-bit OS, including Windows XP, are not supported)
 - Mac: OS X 10.11, 10.10, and 10.9 supported (these are all automatically 64-bit operating systems)

C. Accessories

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|------------------|--|-----|
| 1). MP160 | Data acquisition unit | -1- |
| 2). AMI100D | Amplifier Input Module | -1- |
| 3). AcqKnowledge | Acq software license and installer USB keys Software Guide (PDF) | -1- |
| 4). CBLETH1 | ETHUSB Ethernet adapter and Ethernet Cable | -1- |
| 5). AC150A | Power Supply | -1- |

D. Remarks

1. One year warranty service will be provided.

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9030.84		심전도, 호흡측정모듈	set	1

A. Features

한가지 모듈에 무선으로 두가지 신호(ECG/RSP) 측정이 가능하도록 구성되어진 모듈이며, BioNomadix의 악세서리인 RSP transducer와 짧은 리드 선 제품으로 좋은 호흡신호와 심전도 신호 기록이 가능합니다.

B. Specifications

1. BioNomadix RSP & ECG — Wireless Physiology (BN-RSPEC) 1 ea
 - 1). 신호 측정 타입 : CH A - Respiration (RSP), CH B - Electrocardiography (ECG)
 - 2). 주파수 경계 : Max: RSP DC to 10 Hz; ECG 0.05 to 150 Hz;
 - 주파수 설정 : RSP DC to 1 Hz; ECG 1 to 35 Hz
 - 필터 옵션 : RSP DC, 0.5 Hz HP, 1 or 10 Hz LP
ECG 0.05 or 1 Hz HP, 35 or 150 Hz LP
 - 3). 노치 필터 : 50/60 Hz user-controlled switch—factory preset OFF
 - 4). 신호측정을 위한 필요 악세서리 : CH A: BN-RESP-XDCR only
CH B: BN-EL15/30/45-LEAD3 only
 - 5). 파워: 신호 수신 : BIOPAC MP160 Research System or Isolated Power Supply (IPS100C)
배터리 정보: L-ion battery - full charge provides ~72 hours operation;
recharger included
 - 6). Strap : 137 cm included; additional sizes available
 - 7). 사이즈/무게 : Transmitter (approx.): 6 cm x 4 cm x 2 cm; 54 grams
Receiver (approx): 4 cm x 11 cm x 19 cm; 380 grams

C. Accessories

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|-------------------|-----------------------------------|------|
| 1). BN-RESP-XDCR | Respiration Transducer-BioNomadix | 1 ea |
| 2). BN-EL45-LEAD3 | Electrode Lead 3X45cm-BioNomadix | 1 ea |
| 3). Electrode | Electrode(Pkg.100) | 1 pk |

D. Remarks

1. One year warranty service.
2. Complete operation training.