



# Intelect<sup>®</sup> Neo

Therapeutic excellence, at the touch of your finger

The Intelect Neo is the new standard in physical medicine modalities. Its intelligent design (the result of over 100,000 hours of intensive R&D) is clever in its features, usability and clinical technology. Delivering an exceptional patient and therapist experience. Every element of the Intelect Neo has been expertly crafted, empowering the clinician to provide patients with a comprehensive level of rehabilitation.

Intelect Neo offers multimodality with 5 plug-and-play modules. Each unit can be assembled specifically for your customized clinical needs. And your unit can also adapt to your future needs by adding additional modules. The plug-and-play modules are easily installed in no time, without worrying about configuration and other settings.

Neo is also simple to use and a pleasure to navigate, thanks to the Clinical Protocol Setup™ (CPS), which leads you through the functions of the device and each therapy.

Additionally, Neo offers a stunning anatomic library that illustrates an array of pathologies, making it easier for you to communicate with patients about their condition and educate them on further treatment options.

A completely modular setup allows you to choose among the components that best fit your practice. The unit has an integrated base with discreet, strong handles for carrying. The optional high-quality cart is stable, height-adjustable, moves with ease, and includes three roomy storage drawers with sturdy pull tracks.

Clinical excellence and increased productivity, Intelect Neo gives you the freedom to have both.



# Electrotherapy Waveforms

Waveforms	Description	Output Intensity	Phase Duration	Frequency (Hz)
Interferential Current IFC (4-Pole)	Interferential Current is distributed through two channels (four electrodes). The currents cross each other and interfere, resulting in a modulation of the intensity (the current intensity increases and decreases at a regular frequency).	0-100 mA / 0-64V		2000-10000 (Carrier) 1-200 (Beat)
Premodulated IFC (2-Pole)	Premodulated Current comes out of one channel (two electrodes). The current intensity is modulated: it increases and decreases at a regular frequency.	0-100 mA / 0-90 V		2000-10000 (Carrier) 1-200 (Beat)
VMS™	A symmetrical biphasic waveform with a 100 µsec interphase interval. The short pulse has a low skin load, ideal for high intensities applications, such as muscle strengthening.	0-200 mA / 0-200 V	20-1000 µsec	1-200
VMS™ Burst	A burst version of VMS™	0-200 mA / 0-200 V	20-700 µsec	1-200
VMS™ FR	A version of VMS where physiologically based channel interaction in which one channel stimulates the agonist & the other the antagonist of the muscle that is being exercised.	0-150 mA / 0-150 V	20-400 µsec	20-80
Asymmetric Biphasic TENS	This waveform has a short pulse duration. It is capable of strong stimulation of the nerve fibers in the skin as well as of muscle tissue.	0-110 mA / 0-110 V	20-1000 µsec	1-250
Symmetric Biphasic TENS	A waveform with a short pulse duration. It is capable of strong stimulation of the nerve fibers in the skin as well as of muscle tissue.	0-80 mA / 0-80 V	20-1000 µsec	1-250
Alternating Rectangular	An interrupted biphasic current with a rectangular pulse shape. Commonly used as a pain management application.	0-100 mA / 0-100 V	20-1000 µsec	1-250
Microcurrent	Microcurrent is a monophasic waveform of very low intensity. The literature reports beneficial effects of this waveform in the treatment of wounds.	0-1000 µA		0.1-1000
Han Stimulation	This waveform provides optimal parameters with a precisely controlled sequence of Dense-and-Disperse (DD) modes of stimulation, simultaneously releasing all 3 kinds of opioid peptides leading to an analgesic effect.	0-100 mA	180 µsec	80
High Voltage Pulsed Current	This monophasic waveform has a very brief pulse duration with two distinct peaks. The high voltage causes a decreased skin resistance making it comfortable and easy to tolerate.	0-500 V		10-120
Monophasic Rectangular TENS	This waveform is an interrupted unidirectional current with a rectangular pulse shape. Commonly used with electro diagnostic testing & to stimulate Denervated muscle.	0-110 mA / 0-110 V	20-1000 µsec	1-250
Monophasic Rectangular: Pulsed	An interrupted unidirectional current with a rectangular pulse shape.	0-80 mA	0.1-500 ms	
Monophasic Triangular: Pulsed	An interrupted unidirectional current with a triangular pulse shape.	0-80 mA	0.1-500 ms	
Monophasic Rectangular: Surged	A series of rectangular, monophasic pulses. The pulses surge to maximum power, hold and then decrease before the pause. This waveform is well suited for muscle strengthening.	0-80 mA	0.2-5.0 ms	5-60
Monophasic Triangular: Surged	As above but with a triangular shaped pulse.	0-80 mA	0.2-5.0 ms	5-60
Träbert (Ultrareiz)	A monophasic waveform with a phase duration of 2 ms & a pause of 5 ms resulting in a frequency of ~ 143Hz.	0-80 mA	2 ms	~143
Galvanic: Continuous	A direct current following in one direction only.	0-72 mA		
Galvanic: Interrupted	A direct current following in one direction only.	0-79 mA		
Russian	A sinusoidal waveform, delivered in bursts or series of pulses. Claimed to produce maximal muscle strengthening effects without significant discomfort to the patient.	0-100 mA / 0-100 V		
Diadynamic Monophasic (MF)	The Diadynamic waveforms are rectified alternating currents. Frequency of 50 Hz: phase duration of 10 ms followed by a pause of 10 ms.	0-80 mA	10 ms	50
Diadynamic Diphasic (DF)	Frequency of 100 Hz: phase duration of 10 ms followed immediately by another identical phase of 10 ms.	0-80 mA	10 ms	100
Diadynamic CP	1 second of monophasic followed by 1 second of diphasic.	0-80 mA		
Diadynamic CP-iso	A combination of monophasic & diphasic waveforms.	0-80 mA		
Diadynamic CP-id	A combination of monophasic & diphasic waveforms.	0-80 mA		
Diadynamic LP	Rhythmical % fluctuation between 2 monophasic currents.	0-80 mA		
Diadynamic MF + CP	A period of MF followed by a period of CP.	0-80 mA		
Diadynamic MF + CP-id	A period of MF followed by a period of CP-id.	0-80 mA		
Diadynamic DF + LP	A period of DF followed by a period of LP.	0-80 mA		
Diadynamic DF + CP	A period of DF followed by a period of CP.	0-80 mA		
Iontophoresis	The introduction of ionizable drugs through intact skin by the administration of continuous, direct electrical current.			
S/D Curve	The Strength/Duration (S/D) Curve is an electrodiagnostic method to measure whether a muscle is showing signs of denervation or to assess the re-innervation process.			

# Technical Specifications

## ULTRASOUND

Frequency:	1 MHz, ± 5%; 3.3 Mhz, ±5%
Duty Cycles:	10%, 20%, 50%, Continuous
Pulse Repetition Rate:	16, 48 or 100 Hz
Pulse Duration:	1 mSec, ±20%; 2 mSec, ±20%; 5 mSec, ±20%
Output Power:	Large Crystal: 0-15 W at 1 MHz, 0-10 W at 3.3 MHz • Medium Crystal: 0-6W @ 1 and 3.3 MHz • Small Crystal: 0-3 W @ 1 and 3.3 MHz
Amplitude:	0 to 2.5 W/cm <sup>2</sup> in continuous mode, 0-3 W/cm <sup>2</sup> in pulsed modes
Output accuracy:	± 20%, 10% of maximum
Temporal Peak to Average Ratio:	2:1, ± 20%, at 50% Duty Cycle • 5:1, ± 20%, at 20% Duty Cycle • 9:1, ± 20%, at 10% Duty Cycle
Beam Nonuniformity Ratio (BNR):	6:1 maximum Beam Type, Collimating
IPXX Rating for Unit:	IPX0
IPXX Rating for Applicator:	IPX7
Effective Radiating Areas (ERA):	Large Crystal: 5.0 cm <sup>2</sup> (minimum) • Medium Crystal: 2.0 cm <sup>2</sup> (minimum) • Small Crystal: 1.0 cm <sup>2</sup> (minimum)
Treatment Time:	1 to 30 min

### Head Warming Feature

The Head Warming feature of a Intellect® Neo Clinical Therapy System utilizes Ultrasound output, resulting in warming of the Applicator to increase patient comfort. With Head Warming enabled, ultrasound is emitted without pressing the Start button while an ultrasound treatment is being setup. The Applicator LED will not illuminate during the Head Warming period. US Channel will indicate "Head Warming".

Output:	0 - 50% Cycling of maximum power
Frequency:	3.3 MHz
Applicator Temperature:	29.4 °C - 43.3 °C (85 °F - 110 °F)

## LASER



















Output Type:	Infrared Lamp (Laser)
Laser Class:	3B

### Laser Technical Specifications

Pulse Frequencies:	8 Hz - 10000 Hz and continuous
Wavelengths:	670-950 nm (dependent on applicator)
Output:	10-1440 mW (dependent on applicator)
Output accuracy:	+/- 20% of nominal

### Description of Device Markings

The markings on the unit are assurance of its conformity to the highest applicable standards of medical equipment safety and electromagnetic compatibility. One or more of the following markings may appear on the device:

 Refer to Instructional Manual Booklet	 Equipment capable of delivering output values in excess of 10 mA r.m.s. or 10V r.m.s. averaged over any period of 5s						
 Testing Agency	 Dangerous Voltage	 Electrical Type B	 Electrical Type BF	 Laser	 Ultrasound	 Stim	
 Start	 Stop	 Pause	 Intensity	 Lock/Unlock	 ON/OFF	 Laser Stop Switch	
  <p>This unit is considered to be a Class 3B laser product and thus emits visible and invisible laser radiation (IR). Avoid direct eye exposure to the Laser beam. The symbol to the left is located on the back of the applicator and indicates the active radiant surface (the area on the applicator that emits infrared laser energy and the direction of the beam of light)</p>							

### Laser Applicator Technical Specifications

For all single diode and cluster laser and LED applicators, the expected increase in the measured quantities after manufacture added to the values measured at the time of manufacture is ± 20%.

The software incorporates a cooling function that forces the user to cool the laser cluster prior to the next treatment. The software will calculate the cooling time needed when treatment times exceed 3 minutes per application.

- For a 3 minute treatment, it will force a 15 second cool down period
- For a 4 minute treatment, it will force a 2 minute cool down period
- The software extrapolates for times between 3 and 4 minutes

A message will display for 5 seconds on the screen informing the user that the probe is cooling down and the time period required. If the user attempts to use the probe before the cool down period is completed, the message re-displays.

When cool down is complete, a message displays the unit is ready for use.

# Technical Specifications

## VACUUM

**Vacuum Range:** 0 to 600 mbar maximum (0-17.7 inches mercury maximum) +/-5%  
**Vacuum Modes:** Continuous or Pulsed

**Continuous:**  
10 setting over vacuum range, 60mbar setting, +10mbar to -10mbar per setting

**Pulsed Mode:**  
Maximum Vacuum settings 2 to 10, +10mbar to 10mbar per setting. Minimum Vacuum settings in 1 to 9, +10mbar to -10mbar per setting Hold Time in minimum & maximum vacuum settings, 0-20 seconds, in 1 second steps, +/-0.5 seconds

**Power:**  
Input: 20-25 Vdc, maximum peak current 4A  
4A Electrical Class: CLASS I  
Electrical: TYPE BF

## POWER (Combination and Electrotherapy Units)

**Mains:** 100 - 240 VAC, 2.5A to 1.25A, 50/60 Hz  
**Electrical Class:** CLASS I  
**Mode of Operation:** Continuous

### Electrical Type (Degree of Protection):

Ultrasound: TYPE B  
Laser: TYPE B  
Electrotherapy: TYPE BF  
Electrotherapy & sEMG: TYPE BF  
Electrotherapy & Vacuum: TYPE BF  
Ultrasound & Electrotherapy: TYPE B

**Note:**  
All waveforms except High Voltage Pulsed Current (HVPC) have been designed with a 200 mA current limit. VMS™, VMS™ Burst and all TENS waveform output intensities are measured, specified, and listed to peak, not peak to peak.

## GENERAL SYSTEM OPERATING & STORAGE TEMPERATURE

**Operating conditions:**

- Temperature: 10° C to 45° C
- Relative Humidity: 0% to 90%
- Atmospheric Pressure: 700hPa to 1060hPa

**Transport and storage conditions:**

- Temperature: Above 0° C freezing to +60°C
- Relative Humidity: max 95%
- Atmospheric Pressure: 700hPa to 1060hPa

## DIMENSIONS & WEIGHTS

	Dimensions (WxDXH)	Weight
Vacuum Module	26,39 cm x 12,98 cm x 28,12 cm	Vacuum weight is 2.22 Kg
Modules, ultrasound, 2-channel stim, 2-channel Stim with EMG, Laser	28,24 cm x 16,10 cm x 3,63 cm	0.45 Kg
Head @ 45 degree with Base (Tabletop)	40,36 cm x 40,36 cm x 56,01 cm	Tabletop weight is 9.38 Kg
Cart Lowered (with casters)	60,80 cm x 66,52 cm x 69,62 cm	13.33 Kg
Cart Raised (with casters)	60,80 cm x 66,52 cm x 76,58 cm	13.33 Kg
Head and raised cart with screen @ 90deg	60,80 cm x 66,52 cm x 134,23 cm	22.18 Kg

# Custom Made Modality

Build the precise combination for your needs with five slide-in, plug-and-play module options; Channel 1/2 stim, Channel 1/2 stim/ EMG, Channel 3/4 stim, Laser and Ultrasound. Plus the option of a vacuum electrode module. Each unit is assembled and shipped specifically according to your customized clinical needs.



2 channel tabletop stim with sEMG	2 channel tabletop combo with sEMG	2 channel combo with cart	2 channel combo with sEMG and cart	2 channel combo with sEMG, laser and cart	4 channel combo with cart	4 channel combo with sEMG and cart	4 channel combo with sEMG, laser and cart
<b>Required Part Numbers</b>							
6001 70004	6001 70002 70004	6001 70000 70001 70002	6001 70002 70001 70004	6001 70002 70001 70004 70005	6001 70000 70001 70002 70003	6001 70001 70002 70003 70004	6001 70001 70002 70003 70004 70005



# Ordering information

## Intelect Neo Base Unit + Optional Cart

Part Number	Description
<b>Intelect® Neo</b>	
6001	Intelect Neo
<b>Standard Accessories</b>	
13-7651	Intelect Neo User Manual
13-7652	Intelect Neo User Manual on CD
<b>Optional Accessories</b>	
70001	Intelect Neo Cart



## Intelect Neo Ultrasound Module

Part Number	Description
<b>Intelect® Neo Ultrasound Module</b>	
70002	Intelect Neo Module Ultrasound
<b>Standard Accessories</b>	
13-8911	Ultrasound User Manual
13-7718	Modules User Manual on CD
<b>Optional Accessories</b>	
70001	Intelect Neo Cart
70008	Intelect Neo Patient Remote
28900	Applicator, Ultrasound, Neo Int'l, Small
28901	Applicator, Ultrasound, Neo Int'l Medium
28902	Applicator, Ultrasound, Neo Int'l Large
4248	Ultrasound Gel Conductor 24-8.5oz bottles



## Intelect Neo Channel 1/2 Stim Module

Part Number	Description
<b>Intelect Neo Channel 1/2 Stimulation Module</b>	
70000	Intelect Neo Module Stim Channels 1 & 2 + EMG
<b>Standard Accessories</b>	
42182	Dura-Stick® Plus 2 inch round electrodes (2 packs of 4)
70010	Stim Ch 1/2 Leadwire Kit
13-8905	Stim 1/2 Module User Manual
13-7718	Modules User Manual on CD
<b>Optional Accessories</b>	
70001	Intelect Neo Cart
70008	Intelect Neo Patient Remote
79977	HiVolt Probe
10648	Nylatex Wrap
79967	6 x 8 cm carbon electrodes (4x)
79970	6 x 8 cm sponges (4x)
70012	Stim Ch 1/2 XL Leadwire Kit
42192	Dura-Stick® Plus 5 cm round electrodes



## Intelect Neo Channel 3/4 Stim Module

Part Number	Description
<b>Intelect Neo Channel 3/4 Stimulation Module</b>	
70003	Intelect Neo Channel 3/4 Stimulation Module
<b>Standard Accessories</b>	
42182	Dura-Stick® Plus 2 inch round electrodes (2 packs of 4)
70011	Stim Ch 3/4 Leadwire Kit
13-8893	Stim 3/4 Module User Manual
13-7718	Modules User Manual on CD
<b>Optional Accessories</b>	
70001	Intelect Neo Cart
70008	Intelect Neo Patient Remote
70013	Stim Ch 3/4 Leadwire Kit XL
79977	HiVolt Probe
10648	Nylatex Wrap
79967	6 x 8 cm carbon electrodes (4x)
79970	6 x 8 cm sponges (4x)
42192	Dura-Stick® Plus 5 cm round electrodes



## Intelect Neo sEMG + Stim Module

Part Number	Description
<b>Intelect Neo sEMG and Channel 1/2 Stimulation Module</b>	
70004	Intelect Neo sEMG and Channel 1/2 Stimulation Module
<b>Standard Accessories</b>	
42182	Dura-Stick® Plus 2 inch round electrodes (2 packs of 4)
70010	Stim Ch 1/2 Leadwire Kit
70014	Stim Ch 1/2 + EMG Leadwire Kit
13-8905	Stim 1/2 Module User Manual
13-7718	Modules User Manual on CD
<b>Optional Accessories</b>	
70001	Intelect Neo Cart
70008	Intelect Neo Patient Remote
79977	HiVolt Probe
10648	Nylatex Wrap
79967	6 x 8 cm carbon electrodes (4x)
79970	6 x 8 cm sponges (4x)
70012	Stim Ch 1/2 XL Leadwire Kit
42192	Dura-Stick® Plus 5 cm round electrodes





## Intellect Neo Vacuum Stimulation Module

Part Number	Description
<b>Intellect Neo Vacuum Module</b>	
70006	Intellect Neo Module Vacuum
<b>Standard Accessories</b>	
70040	Vacuum Module Electrode/Leadhose Kit (includes 60 mm electrodes and sponges)
70041	Vacuum Plug Kit
13-8809	Vacuum Module User Manual
13-7652	Intellect Neo User Manual on CD
<b>Optional Accessories</b>	
70030	Leadhose Vacuum Ch 1/2 Kit
70031	Leadhose Vacuum Ch 3/4 Kit
70032	Leadhose Vacuum Ch 1/2 Kit XL
70033	Leadhose Vacuum Ch 3/4 Kit XL
70034	90 mm Vacuum Electrode Kit
70035	60 mm Vacuum Electrode Kit
70036	30 mm Vacuum Electrode Kit
70037	90 mm Vacuum Sponge Kit
70038	60 mm Vacuum Sponge Kit
70039	30 mm Vacuum Sponge Kit
70040	Vacuum Module Electrode/Leadhose Kit
70041	Vacuum Plug Kit



## Intellect Neo Laser Therapy Module

Part Number	Description
<b>Intellect Neo Laser Therapy Module</b>	
70005	Intellect Neo Laser Therapy Module
<b>Standard Accessories</b>	
13-8907	Laser Module User Manual
13-7718	Modules User Manual on CD
70008	Intellect Neo Protective Eyewear
27525	Laser Protection Glasses
<b>Optional Accessories</b>	
70001	Intellect Neo Therapy System Cart
<b>Laser Applicators</b>	
<b>Singles</b>	
27799	LED Diode 10mW
27803	Laser Diode 40mW
27840	Laser Diode 100mW
27804	Laser Diode 150mW
27841	Laser Diode 200mW
27805	Laser Diode 300mW
<b>9 Diode Cluster</b>	
27810	290mW Total: 5x50mW Lasers, 4x10mW LED
27811	540mW Total: 5x100mW Lasers, 4x10mW LED
27812	1040mW Total: 5x200mW Lasers, 4x10mW LED
<b>13 Diode Cluster</b>	
27813	265mW Total: 3x50mW Lasers, 7x10mW LED, 3x15mW LED
27814	415mW Total: 3x100mW Lasers, 7x10mW LED, 3x15mW LED
27816	715mW Total: 3x200mW Lasers, 7x10mW LED, 3x15mW LED
<b>19 Diode Cluster</b>	
27815	325mW Total: 6x10mW LED, 7x25mW LED, 6x15mW LED
<b>33 Diode Cluster</b>	
27809	565mW Total: 12x10mW LED, 13x25mW LED, 8x15mW LED
27802	690mW Total: 5x50mW Lasers, 12x10mW LED, 8x25mW LED, 8x15mW LED
27807	940mW Total: 5x100mW Lasers, 12x10mW LED, 8x25mW LED, 8x15mW LED
27808	1440mW Total: 5x200mW Lasers, 12x10mW LED, 8x25mW LED, 8x15mW LED

**NOTE: Applicator(s) must be specified when ordering Laser Module**



DJO Global atstovas Lietuvoje ir Latvijoje:



Karaliaus Mindaugo pr. 16/ Druskininkų g. 1  
Tel. +370 37 323576  
E-mail.: [info@teida.lt](mailto:info@teida.lt)  
[www.teida.lt](http://www.teida.lt)



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