TRS-3100

MARCO

Re**Marco**ble
TRS-3100 Benefits

SPEEDY · SPECIFIC · SIMPLE · SECURE

TOTAL REFRACTION SYSTEM:
AUTOMATED, WIRELESS, AND EMR CONNECTED.

SPEED of automation, set-up, wireless connections, operational response, patient throughput, and office efficiencies

SPECIFICITY of real-time dedicated microprocessor function, EMR/EHR integration, and target-specific test-selection responsiveness

SIMPLICITY of EMR interface with Marco Connect,^{SM} wireless IC Reader connection to other devices, ease of use, and ergonomic design

SECURITY of 'return on investment', accurate measurement, design durability, integrity of patient data, patient satisfaction, 40 yrs of Marco experience & service, warranty protection, and the assurance of operator well-being – avoiding risks of repetitive shoulder & neck injury
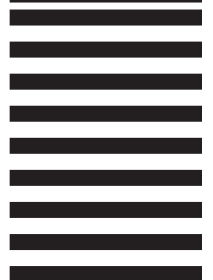
MARCO TRS-3100

◎ BENEFITS:

The NEW TRS-3100 Total Refraction System offers a wireless interface with Marco autorefractors and autolensmeters. The built-in Intelligent Card (IC) Reader allows seamless integration without cable constraints and costs.

- Completely wireless interface with AR, LM, and LCD acuity systems (△)
- Small footprint
- Ergonomic design
- Proven technology
- Cost effective investment

△ = *also cables to most Marco chart projectors*

Measured data

◎ MARCO CONNECT SOFTWARE

Marco Connectˢᴹ is a proprietary software program that is provided to all EMR (Electronic Medical Records) companies that integrate with our products—assuring updated interfaces for all Marco instruments.

With the IC Reader and Marco Connect it is easier than ever to transfer data from pre-test equipment to the TRS-3100 and download all this information to an EMR system.

Pretest
- PD
- Auto lensmeter
- Autorefraction
- K readings
- IOP

Exam Room
- PD
- Auto lensmeter
- Autorefraction
- K readings
- IOP
- Subjective refraction
- Final refraction
- Phoria testing
- Visual acuities
- & more

EMR

Software Updates with Flash drive

Software updates can be performed simply using a flash drive.

◎ ERGONOMIC DESIGN AND FUNCTION

Compact Design

The TRS-3100 is compact and the ergonomic design covers less of the patient's face, offering a more comfortable examination.

Wide Visual Field (40°)

The wide visual field provides a natural view of the environment enabling more realistic and accurate refractions.
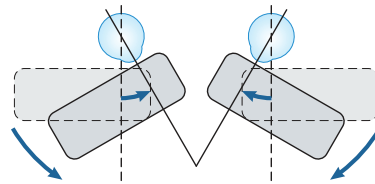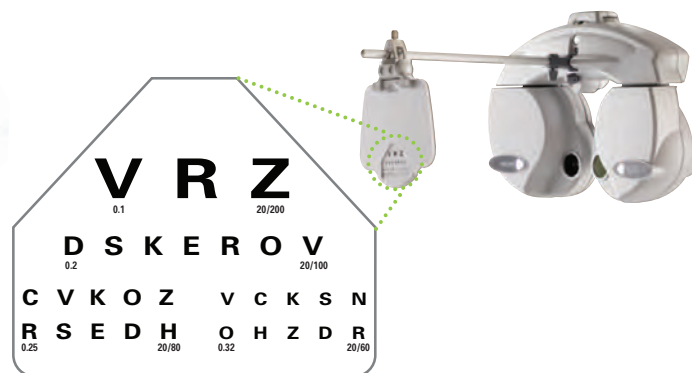
Faster Examinations

The responsive operator keypad makes refining sphere, cylinder, and prism lenses smoother and faster than manual examinations. This makes comparing current Rx or unaided to corrected vision instantaneous.

Convergence and PD

During near point tests, power convergence and power PD are adjusted automatically. PD can be adjusted independently for more accurate and reliable measurements.

V R Z
0.1　　　　　20/200

D S K E R O V
0.2　　　　　20/100

C V K O Z　**V C K S N**

R S E D H　**O H Z D R**
0.25　　20/80　0.32　　20/60

Working Distance: 40 cm (16 inch)

◎ KEYPAD WITH TOUCH MONITOR

Color Monitor

The 5.7 inch LCD color monitor gives enhanced, illuminated detail with touch screen function. The compact design of the keypad maximizes work-space and user comfort, avoiding the risk of shoulder and neck injury.
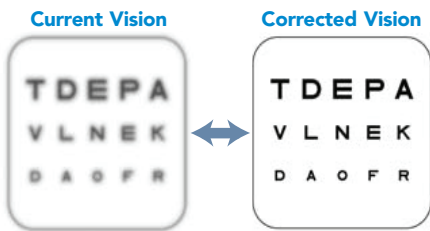
Advanced Dial with S/C/A Mode Keys

The S/C/A Mode keys in the center of the dial allow the operator to quickly refine sphere, cylinder, and axis using only one hand.

Enhanced Refinement

Extremely small increments of measurement may be used with the TRS-3100. Axis refinements are 1-5° and prism adjustments are 0.1-1.00. Immediate justification is accomplished by comparing the old Rx to the subjective with a single push of a button.

Current Vision

T D E P A
V L N E K
D A O F R

Corrected Vision

T D E P A
V L N E K
D A O F R

Cross Cylinder Examination

Cross cylinder examination is more precise and effective for astigmatism exams by adjusting the axis increment change automatically for high cylinder power, with 1° refinements. The spherical equivalent is also adjusted automatically.

◎ OPTIONAL PRINTOUTS

High-Speed Printer with Automatic Cutter

The TRS-3100 keypad includes a built-in high-speed printer that automatically prints thermal tape. The data on the printout is easy to read, simply laid out, and helpful for explanation to patients. Paper replacement takes only seconds. The automatic cutter leaves one edge of the paper uncut to prevent dropped or lost reports.

All print-outs are only intended to serve as hard copy back-up.

The automatic Marco Connect software transfers all data directly to your EMR system.

These print-outs represent only two of numerous custom options.

```
     ID : 123456789012
 NAME:                 M/F
 OCT/ 3/2008    10:13 am
                 WD=40cm
--<R>---< VA >---<L>--
FAR
   200     150     400
--<R>---< LM >---<L>--
FAR
 - 1.75    SPH   - 2.25
 - 0.75    CYL   - 0.25
     0°    AXS       0°
 + 1.00    ADD   + 1.00
           VA
  ( 50 )   ( 40 )  ( 60 )
B0 0.50  PRSM B0 0.50
B  0.00         B  0.00
          PD(LM)
           65.0
--<R>---< AR >---<L>--
FAR
 - 3.00    SPH   - 3.50
 - 1.50    CYL   - 1.00
   178°    AXS       4°
--<R>---<SUBJ>---<L>--
FAR
 - 2.75    SPH   - 3.25
 - 1.25    CYL   - 0.75
   175°    AXS       5°
 +2.00     ADD   + 2.00
           VA
  ( 15)           ( 20)
B  0.00  PRSM B0 2.00
B  0.00         B  0.00
NEAR
 - 0.75    SPH   - 1.25
 - 1.25    CYL   - 0.75
   175°    AXS       5°
```

```
--<R>---< VA >---<L>--
FAR
 - 2.25    SPH   - 2.75
 - 1.00    CYL   - 0.50
   175°    AXS       5°
 + 1.50    ADD   + 1.50
           VA
          ( 20)
B0 1.00  PRSM B0 1.00
B  0.00         B  0.00
NEAR
 - 0.75    SPH   - 1.25
 - 1.00    CYL   - 0.50
   175°    AXS       5°
**Far + Addition**
 - 0.75    SPH   - 1.25
 - 1.00    CYL   -0.50
   175°    AXS       5°
           PD
           68.0
          NPD
           63.5
--<R>---< KM >---<L>--
R1
  8.28     mm     8.23
 40.75      D    41.00
    90°    AXS      76°
R2
  8.10     mm     8.07
 41.62      D    41.87
     0°    AXS     166°
--<R>---< NT >---<L>--
 10.0     mmHg     9.3
 1.33      kPa    1.27

   NIDEK  RT-3100
```

Printout labels:
- ID number
- Space for name and sex, Measured time and date
- Working Distance
- Unaided Visual Acuity
- Lensometry data (LM data)
- PD for glasses
- Objective Data (AR data)
- Subjective Data
- Prescription
- Near Powers
- Pupillary distance
- Near Pupillary distance
- KM measurement
- Intraocular pressure (Transferred from M3)

SPEEDY

• Faster refractions increase throughput and efficiency

• Built-in Intelligent Card Reader provides immediate data transfer from Marco autorefractors and autolensmeters.

• Rapid-Reflex℠ keypad technology speeds up refining of sphere, cylinder, and prism lenses, with instantaneous comparisons to current Rx or unaided to corrected vision

SIMPLE

• Large LCD screen provides logical and clear graphic displays for simple use and navigation

• Nearly effortless fingertip control of all test selections and adjustments in a compact, space-saving design

• Wireless connections reduce significant cabling costs and product placement constraints

• Easy communication with projectors and peripheral interfaces
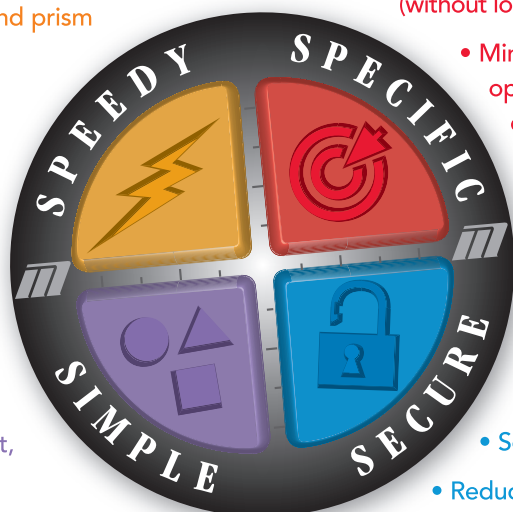
SPECIFIC

• Dedicated, real-time operating system with instant response time

• TRS System shares the same 'mission specific', targeted operation as emergency medical and military equipment (without locking up, or crashing, like general operating systems)

• Minimal processing power required (unlike other operating systems that continuously run non-essential, background functions)

SECURE

• EMR linked with Marco Connect℠ – ready for EHR stimulus benefits

• Accurate refractions minimize remake costs

• Component integrity maximized (not subjected to failures due to excessive heat)

• Secured data (without added fire walls)

• Reduced repetitive stress injuries with fingertip operation

• Practice security of satisfied patients – through impressive, high-tech, efficient, and educational office experiences.

Receive all of these benefits in addition to 40 years of Marco practice-building expertise, robust customer care/technical service team support, and SW updates with product upgrade paths, for the life of your practice.

New TRS-3100 from Marco.

☐ Please send additional materials or publications about the TRS System.
☐ Please provide a list of TRS installed references I may contact.
☐ Please have a Marco Practice Consultant contact my practice.

Name _____ Facility Name _____

Address_____

City_____ State _____ Zip_____

Phone _____ Fax _____

Email _____

MARCO

TRS-3100 SPECIFICATIONS

◎ MEASUREMENT RANGE

Sphere	-19.00 to +16.75D (0.25 / 0.50 to 3.00D increments)
Cylinder	0.00 to ±6.00D (0.25 / 1.00D increments)
Axis	0° to 180° (1°/5° increments)
PD	48.0 to 80.0mm (far mode)
	50.0 to 74.0mm (near working distance of 35 cm)
	54.0 to 80.0mm (far PD possible for 100% convergence)
Rotary Prism	0.0 to 20.0 ⊿ (0.1 / 0.5 / 2.0 ⊿ increments)

◎ AUXILIARY LENSES

Cross Cylinder Lens	±0.25D
Occluder	
Pinhole Plate	2.0mm
Red Maddox Rod	Right eye: horizontal, Left eye: vertical
Red/Green Filter	Right eye: red, Left eye: green
Polarizing Filters	Right eye: 135˚, Left eye: 45˚ / Right eye: 45˚, Left eye: 135˚
Fixed Cross Cylinder Lens	±0.50D
Spherical Lenses for Retinoscope	+1.50 / +2.00D
Dispersion Prism	Right eye: 6 ⊿ BU, Left eye: 10 ⊿ BI*
Refraction Distance for Near Vision	350 to 700mm (selectable in increments of 50mm)
Visual Field	40˚ (VD = 12mm)
Forehead Rest Adjustment	14 ±2mm
VD Scale	12, 13.75, 16, 18, 20mm

◎ GENERAL INFORMATION

Horizontal Level Adjustment	±2.5˚
Display	5.7-inch color LCD
Printer	Built-in
IC Reader/Writer	Built-in
Power Supply	AC 100 to 240 V
Power Consumption	80 VA

Refractor Head
(Main Body : MB)

Chart Projector
(Option)

Control Box
(CB)

IC Reader
(Option)
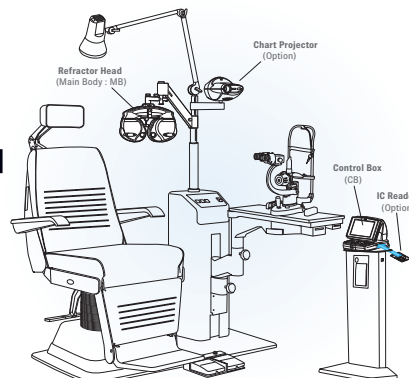
The TRS-3100 can be connected with your current lane equipment.

◎ DIMENSIONS AND WEIGHT

Refractor Head:	
Main Body (MB)	13.98 (W) x 3.94 (D) x 10.87 (H)" (without bracket) / 7.72 lbs.
Control Box (CB)	6.30 (W) x 8.23 (D) x 6.50 (H)" / 3.75 lbs.
Relay Box (RB)	7.64 (W) x 8.94 (D) x 2.40 (H)" / 4.40 lbs.
Standard Accessories	Near point card, Near point rod, Forehead rest, Face shield, Stylus pen, Dust cover, Communication cable (MB-RB, CB-RB), Printer paper (3 rolls), Power cord, Operator's manual
Optional Accessories	Intelligent Cards (5 cards/set)

When used with the NIDEK SC-2000, special settings are available.

The TRS-3100 is manufactured for Marco by Nidek.

NIDEK

EMR COMPATIBLE

CONNECT℠

MARCO

THE LEADER IN VISION DIAGNOSTICS®