



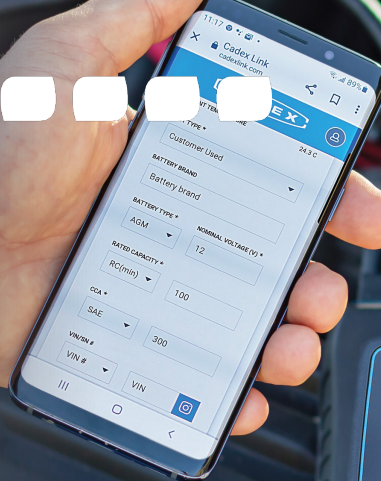
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CAPACITY ASSESSED RIGHT!

SPECTRO MODULAR™

CM-12 Battery Rapid-Tester

- **Quickly diagnose** a battery's reserve capacity (Ah), CCA health
- **Reduced** "Charge and Retest"
- **Non-Invasive testing** – no heavy loads on the battery and more consistent results
- **Seamlessly integrates** with OEM Warranty, Telematics or Aftermarket diagnostic scan tool platforms



For over **40** years, Cadex has been at the leading edge of battery testing technology. Serving customers in over 100 countries globally. Our world-class team and innovative technology products are designed to optimize all phases of battery life-cycle management. The NEW Spectro CM-12 delivers Rapid Battery State of Health Assessment using patented EIS Technology and responds to the customer's demanding battery health requirements.

WHY

SPECTRO CM-12

Spectro CM-12 gives a complete battery State of Health assessment ensuring your customers get the most life from their battery and don't get stranded.

HOW THE

TECHNOLOGY WORKS

The Spectro Modular CM-12 examines multiple aging effects related to a battery's internal electrochemical characteristics by scanning the battery at different frequencies using Electrochemical Impedance Spectroscopy (EIS), whereas other testers only measure Cold Cranking Amps (CCA), not the true measure of battery health.

Spectro delivers fast 30 second testing of Reserve Capacity, CCA, and High Resistance using Cadex's patented multi-model Spectro EIS technology and Machine Learning algorithms.

- **Fast** – process more batteries quickly
- **Easy to use** – simple guided test procedure via app
- **Reduce Charge & Test** – test down to 50% SoC
- **Catches low RC Batteries** – prevent stranded customers
- **OPEN API** – for seamless integration with: OEM Warranty, Aftermarket, Automotive diagnostic Scan Tools & Telematic systems
- **Easy Wireless Connection** – with Android phone, tablet or computer
- **Scalable** for voltage and chemistries (e.g. Lithium and up to 48V)

APPLICATIONS

VEHICLE OEMS / DEALERSHIPS

- Pre-delivery Inspection (PDI), Arrival Inspections (Ports, Lots), Service drives, workshops
- Warranty & Aftermarket battery service programs

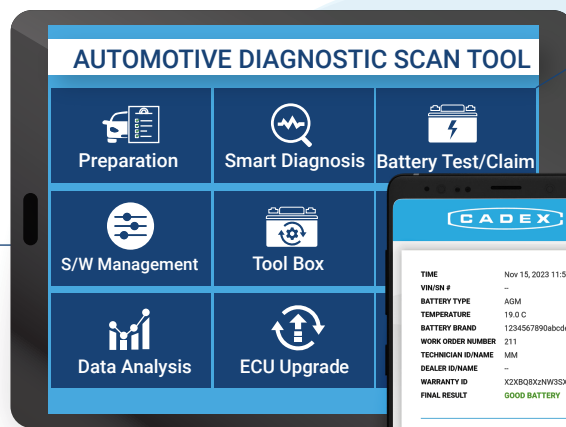
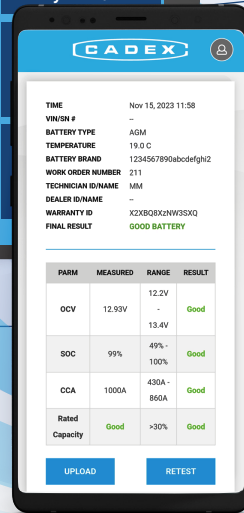
INDEPENDENT SERVICE & REPAIR FACILITIES

- Battery diagnostics and replacement
- Enhanced preventative maintenance

COMMERCIAL VEHICLE FLEET MAINTENANCE

- Police / Fire / Ambulance / Taxis
- Bus / Utility / Trucking

CADEX CLOUD
OR
3rd PARTY
DIAGNOSTIC
SYSTEMS



IMPROVED CUSTOMER SATISFACTION

- Reduce costly unscheduled down times
- Eliminate repeat battery failure related dealer visits
- Retain brand loyalty; increase brand quality scores!

OPTIMIZE PREVENTATIVE MAINTENANCE

- Find battery deficiencies where others don't!
- Reduce no start/tow-ins
- Reduce OEM paid roadside assistance claims

BUILD TECHNICIAN CONFIDENCE

- Fast, decisive battery (SoH) assessment
- Ability to detect unique Poor RC battery conditions early
- Detect High Resistance battery anomalies on a fully discharged battery (10.5v)

Feature	CA-12 (OEM)	CM-12	CM-48
Patented Multi-Model EIS scanning technique -unequaled assessment of Capacity Fade of aging batteries	YES	YES	YES
Open API to integrate into OEM, Workshop and Telematics diagnostic Systems	NO	YES	YES
Wireless Connectivity: For Cadex Link , Cadex Cloud & OTA Firmware updates	NO	YES Wi-Fi, Bluetooth	YES Wi-Fi, Bluetooth
Model: Spectro Modular Ordering: Product SKU #	11-500-013x	11-500-201-00	11-500-2xx-xx
Battery Types/Chemistries: FLD, VRLA, SLA, AGM, GEL, EFB	YES	YES + Li-ion, Deep Cycle	YES + Li-ion, Deep Cycle
Battery Ratings / Cranking units: CCA, CA, EN, IEC, DIN, BCI, MCA	YES	YES	YES
Test Conditions SoC: 50-100% SoC (State of Charge in % ; Captures Soc Pass/Fail status)	YES	YES	YES
Voltage Supported (Shown in 3 digit read out)	12-16VDC	12-16VDC	3-48VDC
Test Time	< 1Min	< 1Min	< 1Min
Test Mode Support: PDI, OEM Dealer and Aftermarket, Ports, Service drives and Workshops.	YES	YES	YES
Reserve Capacity Test	55-250 RC minutes	55-250 RC minutes	55-480 RC Minutes
Ah Test	YES : 27.5 - 125Ah	YES : 27.5 - 125Ah	YES : 27.5 - 240Ah
Heavy Duty battery support (battery size 250 - 480RC / 125 - 240Ah)	NO	NO	YES
CCA Test Range: In Amps, %; Pass/Fail;	300 - 1200A	300 - 1250A	300 - 1250A
Charging System test	YES	NO	NO
Tester Operating Temperature	0°C-40°C/32°F-110°F	-10°C-45°C/14°F-113°F)	-10°C-45°C/14°F-113°F)
Battery Temperature Sensing	0°C-80°C/32°F-176°F	-10°C-80°C/14°F-176°F)	-10°C-80°C/14°F-176°F)
Rechargeable internal batteries	YES	YES	YES
Printing Capabilities	YES	Via mobile device	Via mobile device
Stored test results	150	1000	1000
Test run time (# of tests between charge)	150	250	250
Standalone operation. Can operate tester without Wi-Fi connection. Store data on the device,upload as needed	YES	YES	YES
Integrated Solution: Compliant w/OEM Diagnostics or 3rd party Workshop/Fleet/Telematics Software via our API	NO	YES	YES
Barcode Support	1D/2D	Via mobile device	Via mobile device
VIN Capture	YES	Via mobile device	Via mobile device
Field replaceable clamp cable	YES	YES	YES
Power Adapter : 110-240VAC,50-60Hz AC Power adapter	YES	YES /USB-C	YES /USB-C
Dimensions & Weight	10.9"x6.8"x4.6" (275 x 172 x 117mm) 1.58kg/3.5lb "	7.8"x3.8"x1.9" (182 x 96 x 48.5mm) .45kg/1lbs	7.8"x3.8"x1.9" (182 x 96 x 48.5mm) .45kg/1lbs
Environment: Temperature: -10°C to +45°C (14°F to 113°F) Humidity: 10-80%	YES	YES	YES
Safety Approval: CSA/UL/CE; RoHS. REACH, RED, WEEE, ISTA 3A, IP52 and FCC	YES	YES	YES
Warranty: (2) years against defective materials. Cable Clamp carries a 6 month warranty	YES	YES	YES
Patents: U.S. PATENTS: 6,778,913; 7,072,871; 10,302,709	YES	YES	YES

Do you like this solution?
Please contact Heynen for distribution

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