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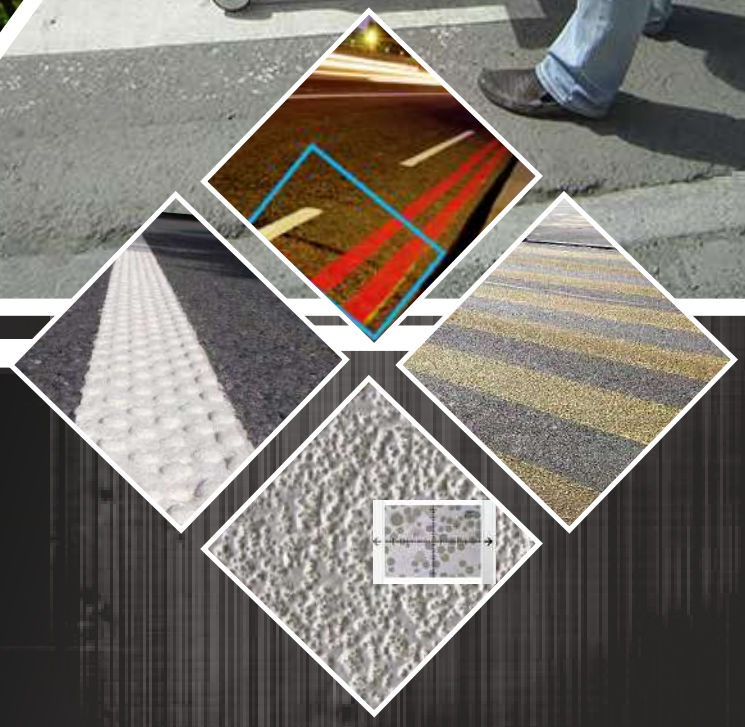
2025 - 26

Zehntner Retro Reflectometer



Road Marking Retroreflectometer
Road Sign Retroreflectometer
Vehicle Mounted Retroreflectometer

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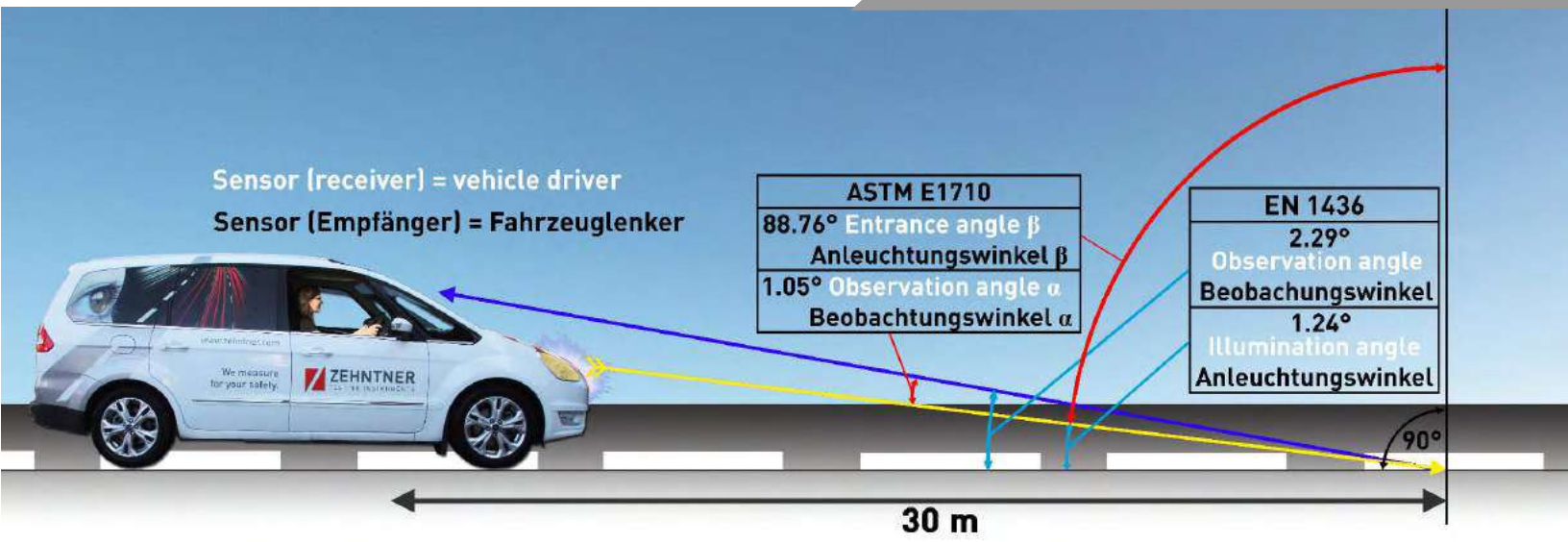
Zehntner testing Instruments, A Proceq SA company, are manufactured in Switzerland & approved by the accredited association StrAus-Zert, Germany. Each instrument is supplied with a calibration certificate traceable to the Swiss Institute of Metrology (METAS) & approved by StrAus-Zert, Zehntner instruments set the standard for road marking measurement.



Proceq Zehntner Retroreflectometers are high performance retroreflectometer widely used to monitor the performance of road markings and traffic signs.
Road marking is very essential for road safety; Especially at night and during wet & rainy condition, when visibility is reduced road markings and signs provide important guidance for drivers to stay safely on the road avoiding accidents.

What is Retroreflection?

Road Marking ensure road safety by directing & guiding drivers on the road . Road markings can be based on as example thermoplastic paints, water or solvent borne road marking paints, which have a life depending on a variety of factors. The same are embedded with an optimal level of glass beads for ensuring retroreflection from the vehicles headlights . The reflectance from the road markings degrade over time. The ability of a driver to view the markings , while driving at speed, from a distance, whether in day or night , dry or wet, can ensure avoidance of accidents.

A Visibility in day light of the road paint is referred to as "Qd" i.e luminance coefficient under diffused illumination

Night time visibility is referred to as "R_L" i.e Retro reflection.

The Road Marking performance evaluation requires use of a Retro Reflectometer with average value to be measured over a sample size at a specific location.

Retroreflectometers work in accordance with EN 1436 , ASTM E 1710 (R_L) ,ASTM E 2302 (Qd) and ASTM E 2177 (R_L wet) .

Zehntner Switzerland, part of the Proceq SA group, worlds premier manufacturer of non destructive testing equipment & instrumentation, offers an array of retroreflectometers which allow monitoring the road markings for all types of road surfaces (dry or wet) at day & night visibility.
asian contec ltd is the authorised partner to Proceq for India.

With integrated mapping and data analysis software, the Professional retroreflectometers provide measurements with precise geolocation and high-res images & allow report generation at ease.

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Road Marking Retro Reflectometer Selection Guide

Model	ZRM 6006 R_L-Qd	ZRM 6013+ R_L-Qd	ZRM 6014 R_L-Qd
Display	Transflective luminous LCD display with LED backlight	Touchscreen 5.7" color TFT (LCD), LED backlight, VGA resolution	
Technology Options	-	GPS, internal printer	High-resolution Camera Optional compass and level-meter GPS, internal printer
Memory	None	1 GB internal flash	
Measurement Modes	R_L dry (night visibility) R_L wet (night visibility) Qd (day visibility) °C/°F (ambient temperature) rH % (relative humidity)		
Measuring Area (WxL)	52mm x 218mm (2.05" x 8.6")	52mm x 218mm (2.05" x 8.58")	52 mm x 218 mm (2.05" x 8.58")
Measuring Range	R_L: 0 - 4'000 mcd•m^{-2}•lx^{-1} Qd: 0 - 400 mcd•m^{-2}•lx^{-1}		
Measuring Accuracy	Repeatability ± 2 %		
Observation Angle	EN 1436 & ASTM E2302: 2.29° ASTM E1710: 1.05°		
Illumination Angle	RL: EN 1436: 1.24° RL: ASTM E1710: 88.76° Qd: diffuse		
Weight	6.4kg (14.1 lbs)	6.8kg (14.99 lbs)	7.6 kg (16.76 lbs)
Operating Temperature	-10°C to +50°C		
Reporting Software	-	Includes mapping and data analysis software MappingTools	
Versatility	Day & night visibility measurement, at day or night, on any road surface	Day & night visibility measurement under any weather condition; dry or wet	Day & night visibility measurement, anytime and on any road surface dry or wet

Zehntner ZRM 6006 R_L-Qd

Road Marking Retroreflectometer

An entry-level and easy to use retro reflectometer

Efficiency
Use in dry or wet condition, day or night on the road or in the laboratory

Versatility
Ultrafast retroreflection measurement (R_L and Qd) in about 2 seconds for all types of road markings

Ease of use
The entry-level device, ideal for measuring night visibility (R_L) and day visibility (Qd) of road markings and ambient temperature with a touch of a button

Features :

- **Budget priced** user-friendly **entry level retroreflectometer** with **one button operation** for measuring **night visibility (R_L) and day visibility (Qd) of road markings** as well as ambient temperature (°C/°F) and relative humidity (rH %)
- Focussed on the core functions to keep the reflectometer simple and inexpensive
- Ultrafast retroreflection measurement ($R_L$and Qd) in about 2 seconds
- For all types of road markings
- The ZRM 6006 Retroreflectometer is **in accordance** with **EN 1436 (R_L/Qd), ASTM E1710 (R_L), ASTM E2302 (Qd), ASTM E2177 (R_L wet)**
- The retroreflectometer factory calibration is traceable to the independent Swiss Federal Institute of Metrology METAS
- The retro-reflectometer is approved by the accredited association StrAus-Zert, Germany (test No. 0913-2011-03)

Application Areas :

- For road authorities, manufacturers of road marking materials, contractors and consultants.
- For Determination of R_L and Qd of all types of road marking paints, marking tapes, thermoplastic and cold plastic materials - whether smooth, textured, profiled, coloured, with or without aggregates / reflective beads

Zehntner ZRM 6006 R_L-Qd

Road Marking Retroreflectometer

Specifications :

Equivalent Observation Distance	30m
Measurement Modes	R_L dry (night visibility) R_L wet (night visibility) Qd (day visibility) °C/°F (ambient temperature) rH% (relative humidity)
Measuring Sensor Adaption	V(λ)
Measuring Area	52 mm x 218 mm (2.05" x 8.58")
Measuring Range Profiled Markings	up to 12 mm (0.5")
Measuring Range	R_L:0-4'000 mcd•m^{-2}•lx^{-1} Qd: 0-400 mcd•m^{-2}•lx^{-1}
Measuring Accuracy	Repeatability ± 2 %
Measuring Time RL/Qd Without Pictures	≈2 s
Observation Angle	EN 1436 & ASTM E2302 : 2.29°, ASTM E1710:
Illumination Angle	1.05° R_L : ASTM E1710: 88.76° EN 1436: 1.24° Qd: diffuse
Display	Transflective luminous LCD display with LED backlight
Battery	Li-Ion 14.4 V / 6.5 Ah
Material Housing	Anodised aluminium / Aluminium eloxiert
Dimensions (LxWxH)	560 mm x 190 mm x 280 mm
Weight	6.4kg
Operating Temperature	-10°C to +50°C , non condensing
Standards	EN 1436 (R_L/Qd), ASTM E1710 (R_L), ASTM E2302 (Qd), ASTM E2177 (R_L wet / nass)
Supply Includes	Retroreflectometer, calibration standard, battery & battery charger, calibration certificate, carrying case with wheels
Warranty	2 years

Zehntner ZRM 6013+ R_L-Qd

Road Marking Retroreflectometer

Advanced road marking retroreflectometer for day and night visibility

Efficiency
Ultrafast retroreflectometer measurement (R_L and Qd) in about 2 seconds for all types of road markings

Versatility
Use in dry or wet conditions at any time of day or night on the road or in the laboratory

User Experience
5.7" high resolution colour touchscreen with excellent visibility under all light conditions

Features :

- **Portable handheld retroreflectometer** with memory for d**etermination of night visibility (R_L) and day visibility (Qd) of road markings** as well as ambient temperature (°C/°F) and relative humidity (rH %)
- **5.7"** high resolution **colour touchscreen** with excellent visibility under all light conditions
- **Ultrafast** retroreflection measurement (R_L and Qd) in about 2 seconds
- For all types of road markings
- The ZRM 6013+ Retroreflectometer is in accordance with EN 1436 (R_L/Qd), ASTM E1710 (R_L), ASTM E2302 (Qd) and ASTM E2177 (R_L wet)
- Factory calibration traceable to the independent Swiss Federal Institute of Metrology METAS
- Approved by the accredited association StrAus- Zert, Germany (test No. 0913-2014-01)

Application Areas :

- For road authorities, manufacturers of road marking materials, contractors and consultants.
- For Determination R_L and Qd of all types of road marking paints, marking tapes, thermoplastic and cold plastic materials - whether smooth, textured, profiled, coloured, with or without aggregates / reflective beads

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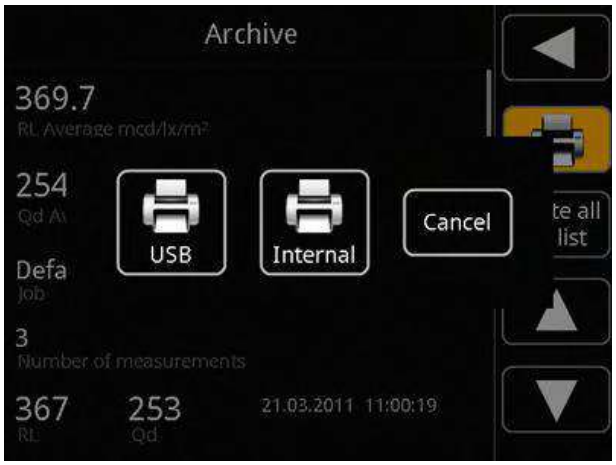
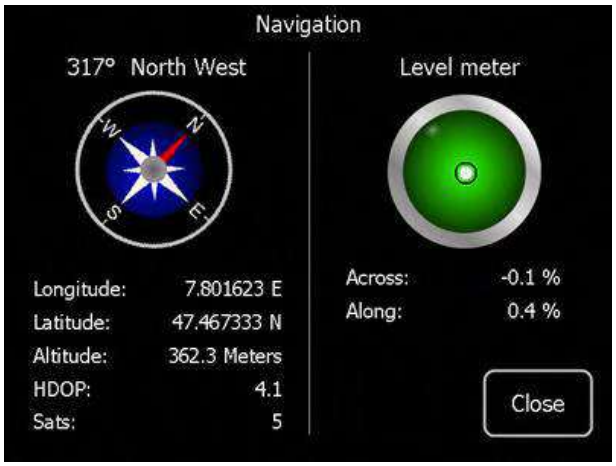
Zehntner ZRM 6013+ R_L-Qd

Road Marking Retroreflectometer

5.7" color touch-screen with easy to use guided menu with excellent visibility under all lighting conditions

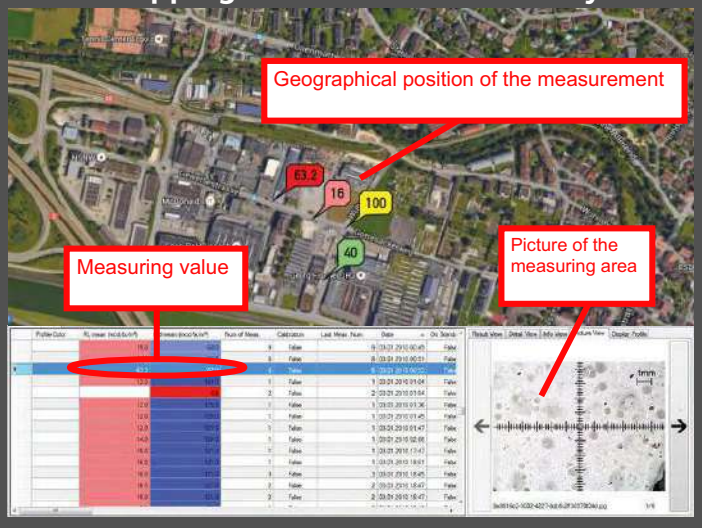


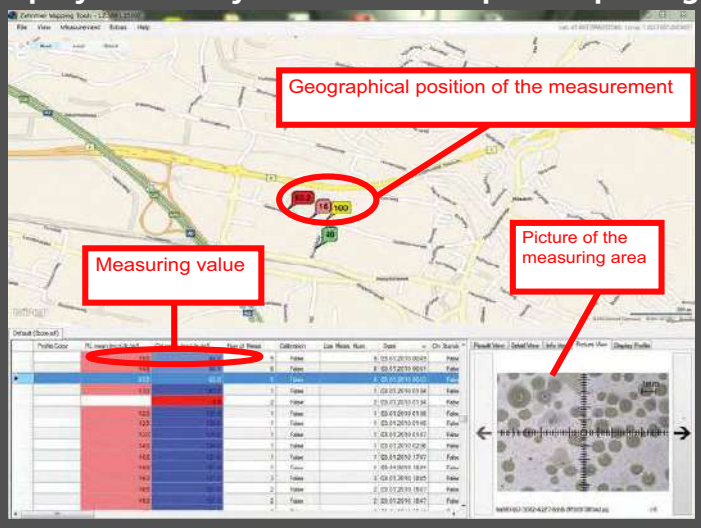
Optional: Built-in printer*



Optional: Compass and level-meter*

Clever "MappingTools" software for easy data display and analysis included as part of package





ZRM 6013+ RL QD Retroreflectometer for Pavement Markings
Measures RL / QD, Instrument with 5.7" Color Touchscreen, Mapping & Data Software, USB Cable for data transfer, Battery charger included. Provided with calibration standard. Provided with carrying case with wheels.

Item Code	Product Version
41020300	Basic, per description above
41020301	+ GPS
41020302	+ GPS & Thermal Printer

* Items shown as optional, if required, should be specified at time of RFQ & ordering

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Zehntner ZRM 6013+ R_L-Qd

Road Marking Retroreflectometer

Specifications :

Equivalent Observation Distance	30m
Measurement Modes	R_L dry (night visibility) R_L wet (night visibility) Qd (day visibility) °C/°F (ambient temperature) rH % (relative humidity)
Measuring Sensor Adaption	V(λ)
Measuring Area	(WxL): 52mm x 218mm (2.05" x 8.58")
Measuring Range Profiled Markings	up to 12 mm (0.5")
Measuring Range	R_L : 0 - 4'000 mcd•m^{-2}•lx- [1] Qd: 0 - 400 mcd•m^{-2}•lx-
Measuring Accuracy	Repeatability ± 2 %
Measuring Time RL/Qd Without Pictures	≈2 s
Measuring Time Single Without Picture	≈1 s
Observation Angle	EN 1436 & ASTM E2302: 2.29° , ASTM E1710: 1.05°
Illumination Angle	R_L : EN 1436: 1.24° R_L : ASTM E1710: 88.76° Qd: diffuse
Display	Touchscreen 5.7" color TFT (LCD), LED backlight, VGA
Memory	1GB internal flash memory
Interface	Host USB (type A / Typ A), Client Mini USB (type B / Typ B)
Battery	Li-Ion-Mn 14.4 V / 6.5 Ah
Material Housing	anodised aluminium / Aluminium eloxiert
Dimensions (LxWxH)	560 mm x 190 mm x 280 mm (22.05" x 7.48" x 11.02")
Weight	6.8kg
Operating Temperature	-10°C to +50°C (14°F to 122°F), non condensing
Standards	EN 1436 (RL/Qd), ASTM E1710 (R_L), ASTM E2302 (Qd), ASTM E2177 (R_L wet / nass)
Reporting Software	Includes mapping and data analysis software MappingTools
Supply Includes	Retroreflectometer, mapping & data analysis software, calibration standard, battery & battery charges, calibration certificate, carrying case with wheels
Technology Options	Optional High-resolution Camera Optional compass and level-meter GPS, internal printers
Warranty	2 years

Zehntner ZRM 6014 R_L-Qd

Road Marking Retroreflectometer

The Most Advanced road marking retroreflectometer

Day and night visibility measurement of road markings with retroreflectometry

Accuracy
Intelligent electronics paired with Swiss Made optics deliver a new benchmark of measurement, accuracy, and ultrafast retroreflection measurement (R_L and Qd) in about 2 seconds

Versatility
Fold-away telescopic handle and wheels standard allowing for superior portability. Gather data for night and day visibility effectively, anytime and on any road surface.

Productivity
Refine your measurements with precise geolocation and high-res images. The user-friendly software makes comprehensive reports quickly and with ease.

Features :

- Portable **handheld top class retroreflectometer** for determination of **night visibility (R_L) and/or day visibility (Qd) for all types of road marking**s as well as ambient temperature (°C/°F) and relative humidity (rH %) combined in one compact instrument
- 5.7“ high resolution colour touchscreen with excellent visibility under all light conditions
- **Fold-away telescopic handle and wheels** for the first time included in the standard delivery of a retroreflectometer for easy field and laboratory operation
- **Ultrafast** retroreflection measurement (R_L and Qd) in about 2 seconds
- Innovative **options** to **customize** the reflectometer to personal requirements such as **integrated 5-megapixel camera**, WAAS **GPS**-unit, **compass** and **level-meter** as well as i**ntegrated printer** option.
- Easy to use menu navigation
- The ZRM 6014 Retroreflectometer is in accordance with EN 1436 (for R_L and Qd), ASTM E1710 (for R_L), ASTM E2302 (for Qd) ASTM E2177 (for R_L wet)
- Factory calibration traceable to the independent Swiss Federal Institute of Metrology METAS
- Approved by the accredited association StrAus- Zert, Germany (test No. 0913-2010-06)

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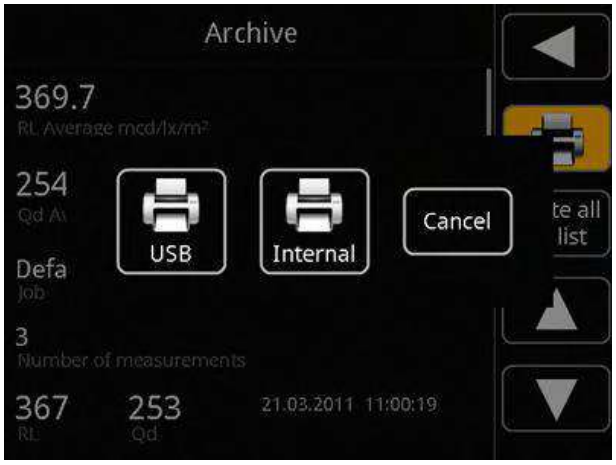
Zehntner ZRM 6014 R_L-Qd

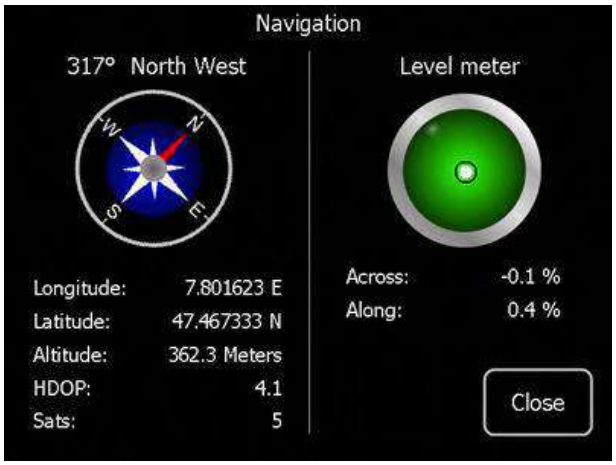
Road Marking Retroreflectometer

Position shifting

Height shifting



Optional: Built-in printer*



Optional: Compass and level-meter*

5.7" colourtouch-screen with easy to use guided menu with excellent visibility under all lighting conditions

Optional: Camera – pictures with or without zoom*

* Items shown as optional, if required, should be specified at time of RFQ & ordering

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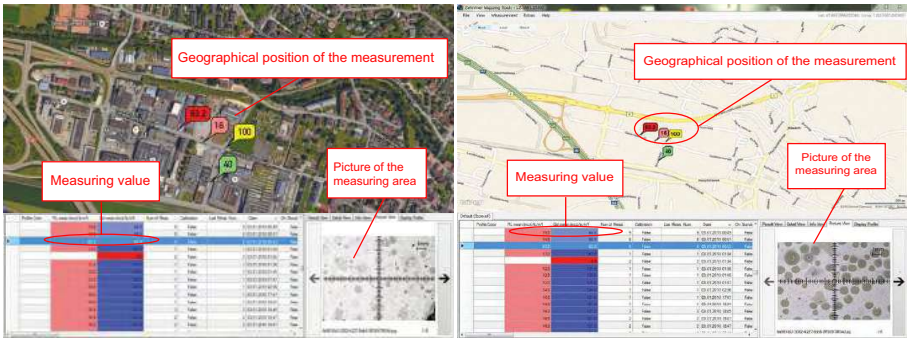
Zehntner ZRM 6014 R_L-Qd

Road Marking Retroreflectometer

Specifications :

Equivalent Observation Distance	30m
Measurement Modes	R_L dry (night visibility) R_L wet (night visibility) Qd (day visibility) °C/°F (ambient temperature) rH % (relative humidity)
Measuring Sensor Adaption	V(λ)
Measuring Area	(WxL): 52 mm x 218 mm (2.05" x 8.58")
Measuring Range Profiled Markings	up to 12 mm (0.5") / bis 12 mm
Measuring Range	R_L : 0 - 4'000 mcd•m^{-2}•lx^{-1} Qd: 0 - 400 mcd•m^{-2}•lx^{-1}
Measuring Accuracy	Repeatability ± 2 %
Measuring Time RL/Qd Without Pictures	≈2 s
Measuring Time Single Without Picture	≈1 s
Observation Angle	EN 1436 & ASTM E2302: 2.29° , ASTM E1710: 1.05°
Illumination Angle	R_L : EN 1436: 1.24° R_L : ASTM E1710: 88.76° Qd: diffuse
Display	Touchscreen 5.7" colour TFT (LCD), LED backlight, VGA
Memory	1GB internal flash memory
Interface	Host USB (type A / Typ A), Client Mini USB (type B / Typ B)
Battery	Li-Ion-Mn 14.4 V / 6.5 Ah
Material Housing	anodised aluminium / Aluminium eloxiert
Dimensions (LxWxH)	658.5mm x190mm x 408.5mm
Weight	7.6 kg (16.76 lbs)
Operating Temperature	-10°C to +50°C (14°F to 122°F)
Standards	EN 1436 (RL/Qd), ASTM E1710 (RL), ASTM E2302 (Qd), ASTM E2177 (RL wet / nass)
Reporting Software	Includes mapping and data analysis software MappingTools
Supply Includes	Retroreflectometer, mapping & data analysis software, calibration standard, battery & battery charges, calibration certificate, carrying case with wheels
Technology Options	Optional High-resolution Camera Optional compass and level-meter
Warranty	2 years



Clever "MappingTools" software for easy data display and analysis

- ZRM 6014 Retroreflectometer for Pavement Markings Measures RL / QD, Instrument with Extendable Foldable handle & fixed mounted wheels, 5.7" Color Touchscreen, Mapping & Data Software, USB Cable for data transfer, Battery charger included. Provided with carrying case with wheels.

Item Code	Product Version
41020200	Basic
41020201	+ GPS
41020202	+Integrated 5MP Camera compass & level meter + Built in thermal printer

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Zehntner ZRS 6060

Road Sign Retroreflectometer

Visibility measurement of Traffic and Road signs and Reflective materials

Accuracy
Intelligent electronics work together with Swiss Made optics to monitor the environment and adjust to stray light. The result is a new benchmark of accuracy and robustness under any conditions in the field.

Versatility
Superior ergonomics and screen readability, thanks to the adjustable display. Quality-assure the night visibility of traffic signs, safety garments, conspicuity tapes, and other reflective materials.

Productivity
Enrich your measurements with precise geolocation and high-resolution images. The user-friendly and intuitive analysis software makes comprehensive reports possible quickly and with ease

Features :

- New generation of ergonomic **retroreflectometer** for determination of **night visibility** (coefficient of retroreflection R_A and R') of **traffic signs**, safety garments and other reflective materials with measurement of three different observation angles at the same time
- The very first retroreflectometer with LED illumination system and with a **3.5" high resolution colour touchscreen** with adjustable display inclination for excellent visibility under all light conditions also in bright sunlight
- Innovative options to customize the reflectometer to personal requirements: integrated 5-megapixel camera, WAAS GPS-unit, holster and handles and many more
- For all kinds of retroreflective materials and colours with automatic colour indication
- **Continuously updated average value**; each single measurement is stored additionally
- Measurements can be evaluated with the mapping and data analysis software „MappingTools" included.
- Easy to operate with polyglot menu navigation

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Zehntner ZRS 6060

Road Sign Retroreflectometer

Technical Specifications :

Measuring Sensor Adaption	V(λ)
Measuring Area	Ø 25 mm (0.98")
Measuring Range	0 - 2'000 cd•lx-¹•m-²
Measuring Time	≈ 3 s
Display	3.5" colour TFT (LCD), LED backlight, HVGA resolution
Memory	Internal flash memory of 1 GB ≈ 1'000'000 measurements without pictures
Interface	Host USB (type A / Typ A), Client Mini USB (type B / Typ B)
Battery	Li-Ion 14.4 V / 6.5 Ah
Material Housing	anodised aluminium / Aluminium, eloxiert
Dimensions (LxWxH)	220 mm x 85 mm x 290 mm
Weight	1.9 kg (4.19 lbs) net without options
Operating Temperature	-10 to +50°C , non condensing
Reporting Software	Includes mapping and data analysis software MappingTools
Supply Includes	Retroreflectometer, calibration standard / front plate , battery charger, mapping and data analysis software
Technology Options	LED illumination system 3.5" colour touchscreen with adjustable display inclination for excellent visibility under all light conditions Measurement of three different observation angles at the same time
Warranty	2 years

Versions	Illumination angle	Observation angle	Application
6060.ASTM	-4°	0.2°, 0.5°, 1°	
6060.CD	5°	0.2°, 0.33°, 0.5°	
6060.DE		0.2°, 0.33°, 1°	
6060.EN		0.2°, 0.33°, 2°	
6060.ECE		0.33°	

Illumination angle β	-4°				+5°				
Observation angle α	0.2°	0.33°	0.5°	1°	0.2°	0.33°	1°	1.5°	2°
ASTM E1710-18	●								
ASTM E1809 (withdrawn)	●								
ASTM E2540			●						
ECE104	●	●	●	●	●	●	●	●	●
DIN 67520					●	●	●	●	●
EN 12899 - 1					●	●			●
BS EN 12899 Annex A						●	●	●	
DIN EN ISO 20471					●	●**	●**	●**	
MUTCD	●								

** If also equipped with observation angle 0.2°

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Zehntner ZDR 6020 RL

Vehicle Mounted Retro-Reflectometer

The Most Advanced Continuous Road marking Retroreflectometer for use on Highways, City roads and Airport runways

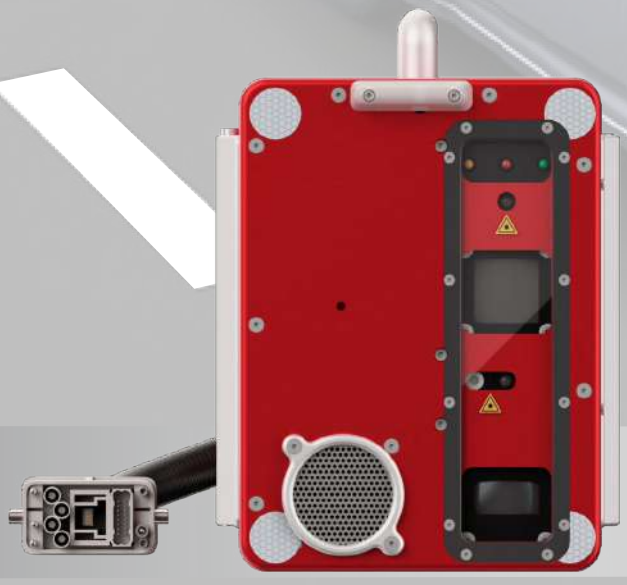
Reliability
Vehicle-mounted with 300 measurements per second guaranteeing accurate and continuous coverage for all types of colors and road markings

Accuracy
Handheld precision at up to 150 km/h (93mph) without obstructing traffic and for all light conditions, even in bright sunlight

User Experience
Measurements can be evaluated with the free mapping and tools software on an industrialgrade touchscreen tablet with a multilingual user interface

Features :

- An advanced vehicle-mounted Retroreflectometer designed for **precise, efficient, and safe measurement of road Marking Retroreflection (RL)** — even during live traffic flow.
- Capable of operating at speeds up to **150 km/h (Max),** it enables continuous, high-speed monitoring without disrupting traffic.
- The ZDR 6020 RL can evaluate **left and right-side markings,** including wide lines up to **1 meter. System provided with both left and right side mounting brackets, to allow mount ZDR6020 on either side of the vehicle for measurement.**
- **Mapping Tools software** automatically identifies and logs **double and triple line markings,** ensuring detailed and structured data capture suitable for use on highways, city roads and airport runways.
- With a capability of up to **300 measurements per second,** the system delivers **handheld-level accuracy,** regardless of ambient lighting — even under bright daylight.
  Ideal for **large-scale, real-time assessments,** it comes equipped with a **10-meter camera-based surveillance module,** a **rugged touchscreen tablet,** and **multilingual post-processing software** for seamless data analysis and reporting.
- It also supports future mobility by contributing to the standardization of markings critical for **ADAS (Advanced Driver Assistance Systems)** and **autonomous vehicle technologies.**



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Zehntner ZDR 6020 RL

Data Acquisition

- Measurements obtained from the measuring head
- Calculates an average value of all received sensor signals
- Verifies and filtering single values according to filter settings
- Averaging single measurements according to the given interval
- Stores the measured value together with additional information in the measuring file
- Current status of any error & warning displayed, including Measuring head, GPS, Measuring file, and Camera
- Show Real-time RL bar graph display for driver guidance.
- One-click report generation and graphical mapping.
- Time diagram for RL-values.
- Measurement data can be saved, with export to Excel or database integration.
- Calibration option built in for Measuring head & Speed Calibration w.r.t Vehicle Speed.
- Provides Setting option for Trigger mode (distance based in meter or time based in seconds), Defining Averaging interval, No of Expected Marking (1,2 or 3) that will be detected, minimum width, maximum width, RL pass fail value, Camera trigger (low/high)
- Various Filter options for Calculation & Display of RL value from the measured raw Pass Fail filter (Low/high Limit), Marking Width Filter (Lower/Upper Limit), Marking Gap filter, Road Stud Filter, Day contrast Filter, Contrast filter, Average filter, Offset Difference Filter)

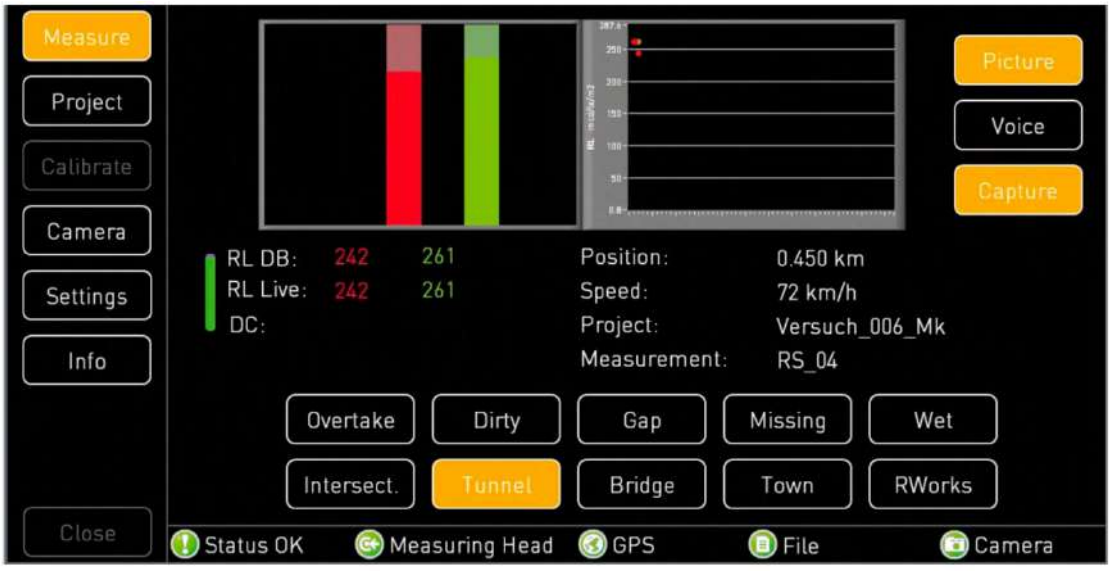
Multiple parameters recorded

- Chainage (km/miles)
- GPS Coordinates (GPS unit with DR)
- Date/Time
- Average Driven Speed
- Ambient Temperature (˚C/˚F)
- Relative Humidity (rH %)
- Day Contrast Ratio
- Pictures
- Voice

Night Visibility

Compliant with EN 1436 & ASTM E1710 (30 m geometry)

Touchscreen Display Mounted Next to Driver for One Man Operation



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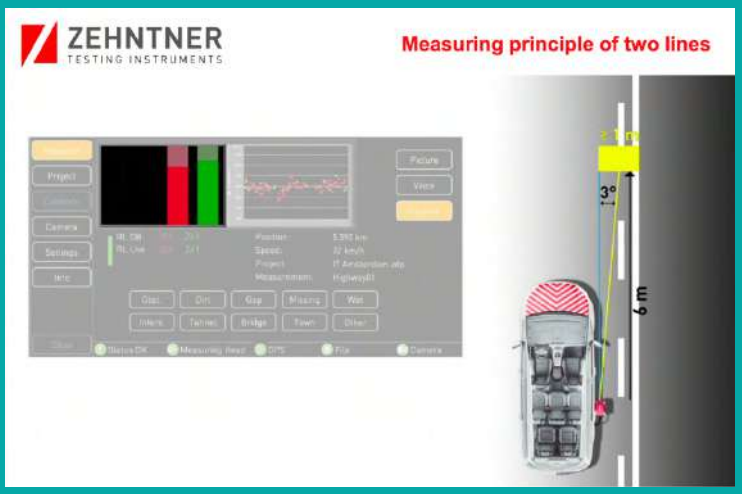
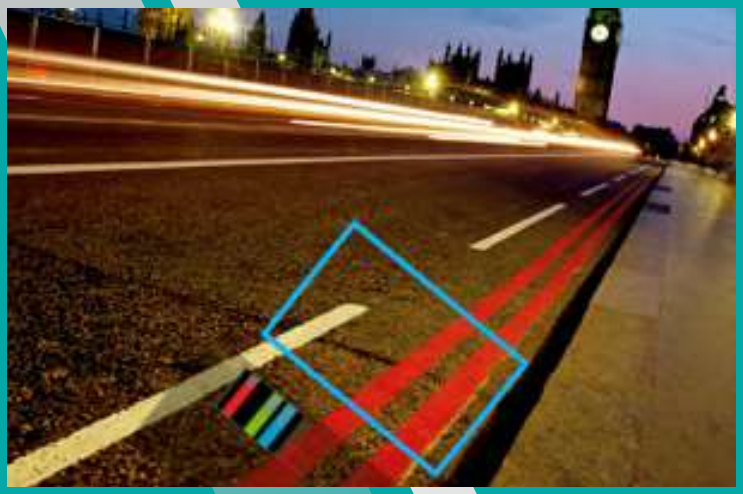
Zehntner ZDR 6020 RL

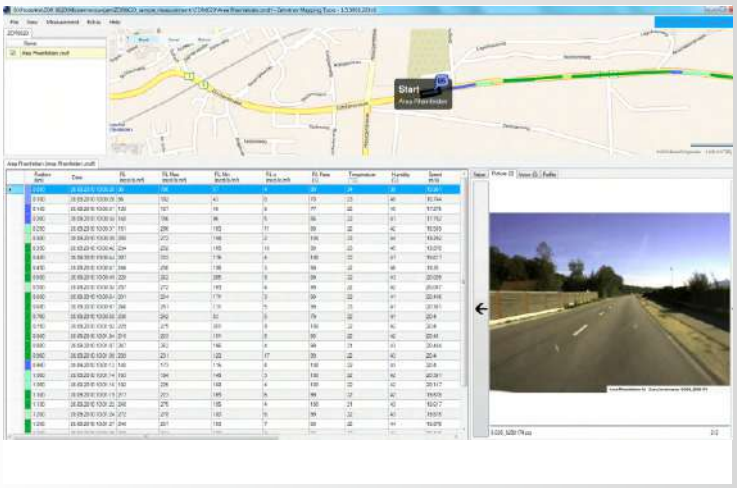


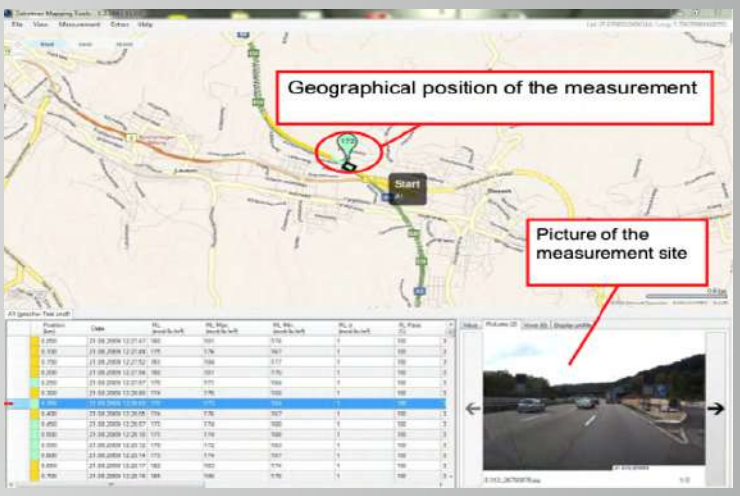


Measuring range : 0 - 4000 mcd·m-2·lx-1
Multi line measurement – Upto 3 lines.
Measured area : ≥ 1000 x 880 mm (One side)

Double and even triple lines are recognized automatically and stored separately.

Convenient Data Analysis with Mapping Tools





- Built in 10Hz GPS with Dead Reckoning – where GPS signals are not available such as tunnels DR provides reliable positioning information.
- Integrated Camera for Automatic Image Acquisition - at 10m interval.

Real time & Continiuous measurement of RL value (Max/Min), Images added to database where survey conducted, Date/Time of Operation, Temperature & Humidity conditions, combined with geographic locations where survey conducted.

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ZEHNTNER TESTING INSTRUMENTS

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Zehntner ZDR 6020 RL

Technical Specifications :

Measurement Rate	≥ 300 measurements per second
Observation Distance	30 m
Observation Angle	EN 1436: 2.29°; ASTM E1710: 1.05°
Illumination Angle	1.24° (EN 1436), Entrance Angle: 88.76° (ASTM E1710)
Measuring Area	≥ 1000 mm (W) x 880 mm (L)
Measuring Distance	6 m
Measuring Speed	Up to 150 km/h
Measurement Range (RL)	0 – 4,000 mcd/m²/lux
Measurement of	RL, Day Contrast (DC), GPS, Temperature, Humidity, Speed, Image, Voice, Time
Trigger Mode	Automatic (distance-based or time-based)
Camera	Integrated auto-iris camera with 10 m interval picture sequence
Voice Recorder	Microphone included for live annotations
GPS	With Dead Reckoning (DR) for tunnels/urban environments
Power Supply	12–16 VDC; Nominal: 20 A; Max: 33 A; Fused at 40 A
Laser Classification	Class 2
Environmental Range	Operating: 0°C to +55°C; Storage: -15°C to +60°C; Non-condensing humidity
Software	Retro Data Grabber with Mapping Tools for visualization and reporting
File Format	Tab-separated, open-source ".xls" format compatible with Excel/Text editors
Standards Compliance	EN 1436, ASTM E1710, ASTM E2177, IRC 35-2015
Safety & EMC	EN 60950-1, EN 50371, EN 55022, EN 55024
Certification	StrAus-Zert, Germany (Test No. 0913-2009-05)
Dimensions (L×W×H) & Weight of Measuring Head	270 mm × 207 mm × 310 mm & 10.5 kg
Dimensions (L×W×H) & Weight of Power Supply Unit (Car Box)	360 mm × 150 mm × 450 mm & 8.5 kg

Retro Reflective Road Markings measurement is one of the most crucial element for ensuring road safety both during the day and at night, and also crucial to the use of advanced lane driving and ADAS systems being inducted into modern vehicles for ensuring road safety. To audit the desired reflectivity, road network testing is necessary during both execution and the Defect Liability Period (DLP). Audit of Pavement markings – is a mandated requirement.

1. What data is recorded with ZDR 6020?
- RL average values, day contrast ratio, GPS coordinates, chainage (position in km/miles), ambient temperature (°C/°F), relative humidity (rH%), driven average speed, picture, voice recording as well as date and time.

2. How many measurements can be taken with the system at a certain distance?
- The number depends on the driven speed and the chosen average interval. The system has a measuring frequency of 300 Hz. Usually 680 measurements are used for calculating the average value if the driving speed is 90 km/h and the average interval is 100 m.

3. How do I know to which place the RL values belong?
- GPS coordinates and chainage is automatically recorded and stored to the RL average values. Furthermore, we provide the possibility that the co-driver is able to insert references with the EVENT-buttons on our RetroGrabber software (e.g. roundabout, bridge, tunnel, wet, etc.) on the laptop which will also be stored. Additional pictures can also be taken every 10 m (32.81 ft) , automatically, which will be stored to the RL value.

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2021 - 22

Digital Concrete Test Hammers

Advanced Non Destructive Testing Schmidt Concrete Test Hammers for Measuring Compressive Strength of Concrete & Rock

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PORTABLE SKID RESISTANCE TESTER

STANLAY™

For Determining friction of Asphalt

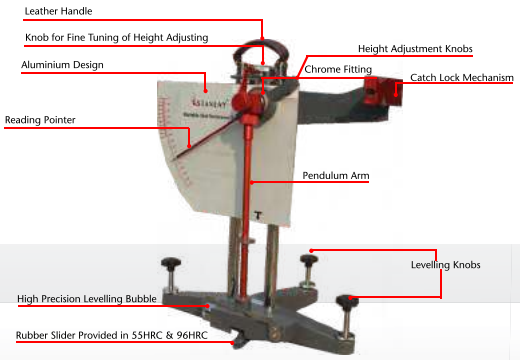
The **Stanlay Portable Skid Resistance Tester** is a direct reading instrument that provides the measure of the friction between a skidding tyre and wet road surface. The **Instrument facilitates a road or runway engineer, based on numerical scientific results**, information on whether a measure needs to be taken to reduce skidding

The instrument can also be used for testing on tiles, surfaces especially relevant to areas with high thoroughfare/ human traffic.

Conforms to: EN 1436, EN 13036-4, ZTVM 02

Working Principle:

The Portable Skid Resistance Tester (PSRT) is based on the Izod principle. In operation, a pendulum of a known mass rotates about a vertical spindle. The head of the pendulum is fitted with a Rubber Slider, which has a specific hardness and resilience. When released from a horizontal position, the pendulum head strikes the sample surface with a constant velocity. The distance travelled by the pendulum after striking the sample, is determined by the friction resistance of the sample surface. The skid resistance values which approximately correspond to the coefficient of friction times 100 are read directly from the clearly engraved scale.



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- Stepped Frequency Continuous Wave GPR

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