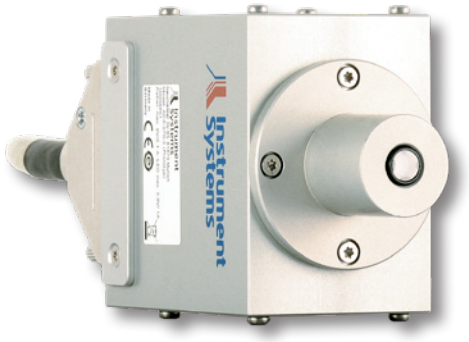
Instrument Systems
KONICA MINOLTA Group

ACS 570-IR Series

IR LED Calibration Standards



Key features at a glance

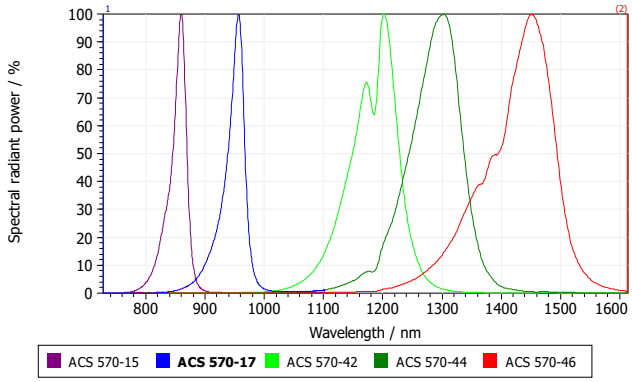
- Reference value for radiant flux in infrared (IR) region
- Available for typical peak wavelengths 860, 950, 1200, 1300, and 1450 nm
- Maximum operational reliability when used with ACU control unit

The IR LED Calibration Standards of ACS 570 series from Instrument Systems GmbH are highly stable infrared sources based on LED technology. They are available in five versions with typical peak wavelengths of 860 nm (ACS 570-15), 950 nm (ACS 570-17), 1200 nm (ACS 570-42), 1300 nm (ACS 570-44), and 1450 nm (ACS 570-46). As a service, Instrument Systems provides traceable reference values for radiant flux.

\\ FUNCTIONALITY

The infrared LEDs inside the ACS 570 series are actively temperature-stabilized by a TEC element. The generated heat is transferred to the surroundings by a heat sink and an integrated electrical fan. A constant operating temperature ensures stable and reproducible radiant power of the LED. The IR LED Calibration Standard is operated at a current of 250 mA or 1 A and the temperature is regulated to 35 °C.

Instrument Systems ISO 17025 accredited test laboratories provide reference values for radiant flux (registration number D-PL-19052-01-00). All reference values, the spectrum, and all relevant operating parameters are stored inside the ACS 570. In addition, the expired operation time is tracked and logged in the device.



Typical spectral curves for IR LED calibration standards.

\\ ACU CONTROL UNIT

The ACU is a new compact control unit for ACS calibration standards from Instrument Systems. It contains a high-precision constant current source in a compact desktop housing in addition to a TEC controller for accurate temperature stabilization.

The ACU has been developed for both laboratory and production use. The ACU is controlled by means of a computer via USB using the ACS Control software. Both, Windows 10 and OS X operating systems are supported.

Moreover, the relevant program libraries (.dll and .dylib) are available for direct access for both operating systems Windows and OS X.

ACU 100 control unit

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\\ TECHNICAL SPECIFICATIONS

IR calibration standard ACS 570 series	ACS 570-15	ACS 570-17	ACS 570-42	ACS 570-44	ACS 570-46
Typical radiant flux [mW]	25 - 40	45 - 70	55 - 70	45 - 60	30 - 40
Typical peak wavelength	860 nm	950 nm	1200 nm	1300 nm	1450 nm
Typical full width at half maximum	25 nm	30 nm	80 nm	90 nm	95 nm
Operating current and accuracy	250 mA ± 0.1 mA		1000 mA ± 0.1 mA		
Operating temperature at control point and accuracy	35 °C ± 0.05 °C				
Temporal stability of radiant flux	< 0.2 % / 12 h and 0.5 % / 100 h				
Temperature dependency of radiant flux	< 0.15 % / 10 K	< 0.25 % / 10 K			
Turn-on stabilization time	< 240 s				
Recommended recalibration interval	After 100 operating hours or one year after last calibration				
Connections	D-sub, 25-pin (ACS 570 to ACU); USB (ACU to PC) Alternative with adapter cable ACS 570-9 to Keithley / Arroyo				

Instrument Systems is continually working to develop and improve its products. Technical changes, errors or misprints do not constitute grounds for compensation.
The company's terms of delivery and payment apply in all other respects.

\\ ORDERING INFORMATION

Order number	Description
IR LED calibration standard	
ACS-570-15	IR-LED calibration standard for radiant flux (~860 nm); mounted in socket with 25 mm Ø
ACS-570-17	IR-LED calibration standard for radiant flux (~950 nm); mounted in socket with 25 mm Ø
ACS-570-42	IR-LED calibration standard for radiant flux (~1200 nm); mounted in socket with 25 mm Ø
ACS-570-44	IR-LED calibration standard for radiant flux (~1300 nm); mounted in socket with 25 mm Ø
ACS-570-46	IR-LED calibration standard for radiant flux (~1450 nm); mounted in socket with 25 mm Ø
Control unit	
ACU-100	Combined control unit for the operation of LED calibration standards of ACS-series; incl. connector cables and control software
Determination of reference values	
CAL-517	Factory calibration of radiant flux of IR-LED calibration standards ACS 570-15/17 in an integrating sphere; with test certificate
CAL-523	Factory calibration of radiant flux of UV- or IR-LED calibration standards with a goniophotometer; with test certificate according to DIN EN ISO 17025

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