## Detection modes
- Fluorescence Intensity - including FRET
- Fluorescence Polarization/Anisotropy
- AlphaScreen®, AlphaLISA®, AlphaPlex™
- Luminescence (flash and glow) - including BRET
- Time-Resolved Fluorescence - including TR-FRET
- UV/Vis Absorbance Spectra

## Measurement modes
- Top and bottom reading
- Endpoint and kinetic measurements
- Simultaneous Dual Emission measurements
- Sequential multi excitation measurements
- Sequential multi emission measurements
- Real-time ratiometric measurements
- Well scanning

## Microplate formats
- Up to 3456-well plates, user-definable

## Light sources
- High energy xenon flash lamp
- Laser for TRF and TR-FRET
- Laser for AlphaScreen®, AlphaLISA®, AlphaPlex™

## Detectors
- Two matched pairs of photomultiplier tubes, optimized for different detection modes

## Optic Module capacity
- Up to six application-specific and barcoded Optic Modules built in

## Z-adjustment
- Top/bottom automatic focal height adjustment (0.1 mm resolution)

## Spectral range
- 230 - 750 nm or 230 - 900 nm for FI, FP
- 230 - 750 nm for LUM
- 230 - 900 nm for TRF
- 220 - 1000 nm for ABS

## Sensitivity
- **FI (top)**
  - < 0.15 pM fluorescein (black 384sv, 20 µL)
  - < 0.5 pM fluorescein (black 1536, 8 µL)
- **FI (bottom)**
  - < 1.0 pM fluorescein (black 384 glass bottom, 50 µL)
- **FP**
  - < 0.5 mP SD at 1 nM fluorescein (black 384sv, 20 µL)
  - < 1.5 mP SD at 1 nM fluorescein (black 1536, 8 µL)
- **TRF**
  - < 5 fM europium (white 384, 80 µL)
  - < 15 fM europium (white 1536, 8 µL)
- **HTRF® (black and white microplates)**
  - Reader Control Kit (Eu) after 18h (384sv, 20 µL)
  - Delta F > 1100 % (High Calibrator)
  - Delta F > 25 % (Low Calibrator)
- **LUM**
  - < 0.4 pM ATP (< 8 amol/well, white 384sv, 20 µL)
  - Dynamic range: 9 decades
- **AlphaScreen®**
  - < 5 pM (< 100 amol/well P-Tyr-100, white 384sv, 20 µL)*

## Read times
- 1 flash: 14 s (384), 27 s (1536)
- 10 flashes: 38 s (384), 1 min 52 s (1536)
- 50 flashes: 1 min 29 s (384), 5 min 18 s (1536)

## Reagent injection
- Up to 2 onboard reagent injectors
- Injection at measurement position (6 to 384-well)
- Injection volumes for each well 3 to 500 µL (optional up to 2 mL)
- Variable injection speed up to 420 µL/s
- Up to four injection events per well
- Reagent back flushing

## Shaking
- Linear, orbital, and double-orbital with user-definable time and speed

## Barcode reader
- Up to three integrated microplate barcode readers

## Incubation
- +5 °C above ambient to 45 °C

## Software
- Multi-user software package including Reader Control and MARS Data Analysis Software, FDA 21 CFR Part 11 compliant

## Dimensions
- Width: 45 cm, depth: 51 cm, height: 47 cm; weight: 49 kg

## Accessories
- Stackers
- Magazines for up to 50 plates - continuous loading feature
- THERMOstar
- Microplate Incubator and Shaker
- Optic Modules
- Available for all applications

## Upgrades
- Upgrades to include options such as additional detection modes, reagent injectors, etc. are available. Please contact your local representative for more information.

---

* Limit of detection: < 100 amol of biotinylated and phosphorylated polypeptide (P-Tyr-100 assay kit, PerkinElmer, #6760620C), measured in white 384 small volume microplates.

Limit of detection (sensitivity) was calculated according to the IUPAC standard: 3x(SD_{blank}) / slope

Specifications are subject to change without notice. © 2017 All rights reserved. All logos and trademarks are the property of BMG LABTECH.