

FPS Devices and Accessories

Technical Specifications

Sensor

| | |
|-------------------------------|--|
| number of sensor axes | 1 or 3, upgradeable ¹⁾ |
| working distance | 0...2000 mm (depending on sensor head) |
| sensor resolution | 1 pm |
| sensor repeatability | 2 nm ²⁾ |
| max. target velocity | 1 m/s |
| measurement bandwidth | 10 MHz |
| signal stability (WD: 20 mm) | 0.286 nm (2 σ) |
| signal stability (WD: 50 mm) | 0.530 nm (2 σ) |
| signal stability (WD: 100 mm) | 1.035 nm (2 σ) |

Modes of Operation

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|---|--|
| measurement modes | displacement, vibrometry |
| remote operation | USB2.0, ethernet port optional |
| output signal: electronics | USB, ethernet ³⁾ , AquadB, HSSL |
| output signal: displacement measurement | laser light |
| sensor alignment | semi-automated via USB |
| sensor initialization | fully automated, turnkey |

Working Environment

| | |
|--------------------|--|
| FPS3010 controller | ambient conditions |
| FPSH sensor heads | depending on specifications |
| FPS ECU | ambient conditions |
| FPS AMS | depending on specifications of used sensor heads |

Software Drivers

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|---------|--|
| Windows | stand-alone application for Windows 7 TM , 8 TM DLL LabVIEW TM Epics (ethernet required) |
|---------|--|

Interfaces

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|----------------------------|--------------------------|
| digital interfaces | AquadB, HSSL (real-time) |
| interface bandwidth USB | 100 kHz |
| interface bandwidth AquadB | 25 MHz |
| interface bandwidth HSSL | 25 MHz |
| resolution USB (abs.) | 64 bit |
| resolution AquadB (inc.) | freely assignable |
| resolution HSSL (abs.) | 8 - 48 bit |

Controller Hardware

| | |
|-------------------|-----------------------------------|
| chassis | 21.4 x 21.4 x 4.5 cm ³ |
| weight | 1.9 kg |
| power supply | 100/115/230 V, 50..60 Hz |
| power consumption | max. 100 W |

Measurement Laser

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|----------------------|---------------------|
| laser source | DFB laser (class 1) |
| laser power | 150 μ W |
| laser wavelength | 1530 nm |
| wavelength stability | 50 ppb |

Article Numbers & Options

| | |
|--------------------------------|---------|
| FPS3010 | 1007418 |
| /SYNC option (activation code) | 1007182 |

FPS Accessories

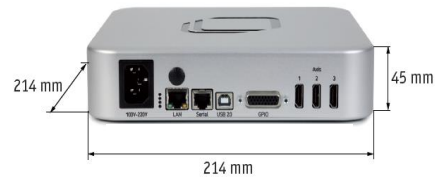
| |
|---------------------------|
| FPSH sensor heads |
| FPSIMF single mode fibers |
| FVFT vacuum feedthroughs |
| FPS ECU |
| FPS AMS |
| FPS Data Marker |
| FPCW cables & wiring |

¹⁾ The FPS1010 can be software-upgraded from one to two and three axis, respectively.

²⁾ At 10 mm working distance (WD), 5 nm repeatability at 100 mm WD, in vacuum conditions.

³⁾ upgrade option /SYNC.

Drawings



FPS Devices and Accessories

| Cause of Change | | | |
|---|------------------------|--|-----------------|
| Because of clearing up the product portfolio, the production of FPS series and all of their accessories will be stopped. | | | |
| Impact alert | | | |
| The subsequent interferometer series IDS provides similar functions like the FPS series, however, the software, DLLs, Pins, and fibers/sensor heads are not compatible. The housing and some technical specifications have changed, please find the details in the specification sheet: https://www.attocube.com/downloads/displacement-measuring-interferometer.pdf This Product Discontinuance does not affect integrated microscope systems (part numbers 1008634, 1013819, 1009934). | | | |
| Dates | | | |
| | <i>FPS Devices</i> | <i>FPS Accessories</i> | |
| <i>EOS (End of Sales) / LTB (Last Time Buy):</i> | 16 September 2019 | 16 September 2019 | |
| <i>EOP (End of Production):</i> | 16 September 2019 | 16 March 2020 | |
| <i>LTD (Last Time Delivery):</i> | 16 October 2019 | 16 April 2020 | |
| <i>EOSR (End of Service and Repair):</i> | 5 Years after delivery | 5 Years after delivery | |
| Part numbers | | | |
| Pos. | Part number | Description | Category |
| 1 | 1006916 | FPS3010 | FPS Devices |
| 2 | 1007181 | FPS1010 axis upgrade | FPS Devices |
| 3 | 1007418 | FPS3010 | FPS Devices |
| 4 | 1007419 | FPS1010 | FPS Devices |
| 5 | 1008535 | FPS3010 - 19" Setup | FPS Devices |
| 6 | 1008536 | FPS - ECU Environmental Compensation Unit | FPS Devices |
| 7 | 1008629 | FPS2010 - 19" Setup | FPS Devices |
| 8 | 1009375 | FPS - Adaption of the GPIO port | FPS Devices |
| 9 | 1009435 | ECU-Connection cable for FPS | FPS Devices |
| 10 | 1009751 | FPS3010 - 19" Setup | FPS Devices |
| 11 | 1010582 | Hardware Update of FPS Controllers | FPS Devices |
| 12 | 1012045 | FPS3010 | FPS Devices |
| 13 | 1012046 | FPS - ECU Environmental Compensation Unit | FPS Devices |
| 14 | 1012047 | ECU connection cable | FPS Devices |
| 15 | 1012048 | FPS ECU-Connecting cable for FPS Version xx | FPS Devices |
| 16 | 1013402 | Customized: Connecting cable for ECU and data marker | FPS Devices |
| 17 | 1004563 | FPSMF2/RT - Single Mode Fiber | FPS Accessories |
| 18 | 1007182 | FPS SYNC package | FPS Accessories |
| 19 | 1007188 | Customized FPSH/M12/C1.6/LT/HV | FPS Accessories |
| 20 | 1007190 | Customized FPSH/M12/C1.6/UHV | FPS Accessories |
| 21 | 1007571 | Customized FPSH/M12/C1.6/RT | FPS Accessories |
| 22 | 1007752 | Customized FPSH/M15.5/C1.6/FLEX/RT | FPS Accessories |
| 23 | 1007753 | Customized FPSH/M15.5/C1.6/FLEX/LT/HV | FPS Accessories |
| 24 | 1007754 | Customized FPSH/M15.5/C1.6/FLEX/UHV | FPS Accessories |
| 25 | 1008537 | FPS firmware upgrade: angular measurement | FPS Accessories |

FPS Devices and Accessories

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|----|---------|--|-----------------|
| 26 | 1008985 | Customized FPSH/M12/C1.6/RAD | FPS Accessories |
| 27 | 1009344 | FPS - Adaption for longer working distances | FPS Accessories |
| 28 | 1009345 | FPS - Data Marker | FPS Accessories |
| 29 | 1009346 | FPS - ultra high NA (UHNA) fiber set | FPS Accessories |
| 30 | 1009433 | FPSH/Menge/Sensor-Art/Einsatzumgebung - Cust-Sensorkopfpaket | FPS Accessories |
| 31 | 1009850 | FPSMF/HV/RAD | FPS Accessories |
| 32 | 1009851 | FPSMF/UHV/RAD | FPS Accessories |
| 33 | 1009935 | O310-LT/HV xs FPS 13 mm | FPS Accessories |
| 34 | 1009939 | Customized FPSH/D4/F8/RT | FPS Accessories |
| 35 | 1009940 | Customized FPSH/D4/F13/RT | FPS Accessories |
| 36 | 1009943 | Customized FPSH/D4/F8/LT/HV | FPS Accessories |
| 37 | 1009944 | Customized FPSH/D4/F13/LT/HV | FPS Accessories |
| 38 | 1009947 | Customized FPSH/D4/F8/UHV | FPS Accessories |
| 39 | 1009948 | Customized FPSH/D4/F13/UHV | FPS Accessories |
| 40 | 1010008 | FPS Starter Kit | FPS Accessories |
| 41 | 1010037 | FPSH/Menge/xs/Cust | FPS Accessories |
| 42 | 1010038 | FPSH/Menge/M12/Cust | FPS Accessories |
| 43 | 1010039 | FPSH/Menge/M15.5/Cust | FPS Accessories |
| 44 | 1010144 | Customized FPSH/M15.5/C1.6/FLEX/RAD | FPS Accessories |
| 45 | 1010146 | Customized FPSH/D4/F8/RAD | FPS Accessories |
| 46 | 1010147 | Customized FPSH/D4/F13/RAD | FPS Accessories |
| 47 | 1010151 | FPS Test Cavity | FPS Accessories |
| 48 | 1010210 | Quick Start Manual FPS3010 + Software CD | FPS Accessories |
| 49 | 1010247 | FPSH/M12-LR/RT – Sensor head package "Long Range" | FPS Accessories |
| 50 | 1010284 | FPSH/D1.2/F7/RT | FPS Accessories |
| 51 | 1010661 | FPSMF/LT/HV/NM - Non-magnetic Single Mode Fibre | FPS Accessories |
| 52 | 1010710 | FPS - Optics Kit "Basic" | FPS Accessories |
| 53 | 1010711 | FPS - Optics Kit "Pro" | FPS Accessories |
| 54 | 1010712 | FPS - Optics Kit "Pro xs" | FPS Accessories |
| 55 | 1010848 | FPSMF/RT/RAD | FPS Accessories |
| 56 | 1010876 | FPS Cable SubD with single ends for HSSL/AquadB Outputs | FPS Accessories |
| 57 | 1010915 | FPS RealTime open-ended Output Cable | FPS Accessories |
| 58 | 1010996 | HT-fiber with FC/APC connector and FPS Ferrule for operation at 450°C continuously | FPS Accessories |
| 59 | 1010997 | FPSH/xs/HT | FPS Accessories |
| 60 | 1011011 | FPSMF/HV/RAD/APC | FPS Accessories |
| 61 | 1011021 | High temperature fiber with FC/APC connector and FPS Ferrule for operation at 450°C continuously | FPS Accessories |
| 62 | 1011163 | ECU connection cable | FPS Accessories |
| 63 | 1011386 | HT-fiber with FC/APC connector and FPS Ferrule for operation at 450°C continuously | FPS Accessories |
| 64 | 1011392 | FPSH/M12/C7.6/RT | FPS Accessories |
| 65 | 1011393 | FPSH/M12/C7.6/LT/HV | FPS Accessories |
| 66 | 1011394 | FPSH/M12/C7.6/UHV | FPS Accessories |
| 67 | 1011395 | FPSH/M12/C7.6/RAD | FPS Accessories |

FPS Devices and Accessories

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|-----|---------|--|-----------------|
| 68 | 1011400 | FPSH/D12/F2.8/RT | FPS Accessories |
| 69 | 1011401 | FPSH/D12/F2.8/LT/HV | FPS Accessories |
| 70 | 1011402 | FPSH/D12/F2.8/UHV | FPS Accessories |
| 71 | 1011403 | FPSH/D12/F2.8/RAD | FPS Accessories |
| 72 | 1011586 | O310-RT xsFPS Collimated | FPS Accessories |
| 73 | 1011924 | FPSMF/UHV, length = 7 m | FPS Accessories |
| 74 | 1012007 | FPSMF/APC/RT, length = 20 m | FPS Accessories |
| 75 | 1012037 | FPSH/xs/HT - High temperature sensor head xs for operation at 450° | FPS Accessories |
| 76 | 1012153 | FPSH/D1.2/F7/Umgebung/Cust | FPS Accessories |
| 77 | 1012155 | FPSH/D4/focal length/Environment/Cust | FPS Accessories |
| 78 | 1012157 | FPSH/M12/focal length/Environment/with/without filter/Cust | FPS Accessories |
| 79 | 1012159 | FPSH/M15.5/focal length/Environment/with/without filter/FLEX/Cust | FPS Accessories |
| 80 | 1012161 | FPSH/D12/F2.8/filter/environment/Cust | FPS Accessories |
| 81 | 1012164 | FPSH/Mounting/C7.6/with/without filter/environment/Cust | FPS Accessories |
| 82 | 1012299 | Test Measurement FPS3010 Interferometer | FPS Accessories |
| 83 | 1013450 | FPSH/D1.2/F20/RT | FPS Accessories |
| 84 | 1013451 | FPSH/D4/F17/RT | FPS Accessories |
| 85 | 1013452 | FPSH/M12/F40/RT | FPS Accessories |
| 86 | 1013453 | FPSH/M15.5/F40/FLEX/RT | FPS Accessories |
| 87 | 1013454 | FPSH/D4/F17/LT/HV | FPS Accessories |
| 88 | 1013455 | FPSH/D4/F17/UHV | FPS Accessories |
| 89 | 1013456 | FPSH/D4/F17/RAD | FPS Accessories |
| 90 | 1013457 | FPSH/M12/F40/LT/HV | FPS Accessories |
| 91 | 1013458 | FPSH/M12/F40/UHV | FPS Accessories |
| 92 | 1013459 | FPSH/M12/F40/RAD | FPS Accessories |
| 93 | 1013460 | FPSH/M15.5/F40/FLEX/LT/HV | FPS Accessories |
| 94 | 1013461 | FPSH/M15.5/F40/FLEX/UHV | FPS Accessories |
| 95 | 1013462 | FPSH/M15.5/F40/FLEX/RAD | FPS Accessories |
| 96 | 1013476 | O310-RT D4 xs FPS 17 mm | FPS Accessories |
| 97 | 1013620 | HT-fiber with FC/APC connector and FPS Ferrule for operation at 450°C continuously | FPS Accessories |
| 98 | 1008993 | FAP1 - L-bracket "standard" for angular measurements | FPS Accessories |
| 99 | 1008994 | FAP2 - L-bracket "flex" for angular measurements | FPS Accessories |
| 100 | 1011001 | FPSH/1/xs/HT – Sensor head package "Miniatur" | FPS Accessories |