

BPM - Production Status Report

Introduction

- This document is intended to be used as a reference for the ESS Beam Position Monitors sensors production.
- It contains status of production, milestones and production files.
- Three different partners are responsible for BPMs production: DESY, INFN and ESS-Bilbao

I) LWU BPMs

Introduction:

LWU BPMs were designed in cooperation between ESS and DESY. These BPMs are button based and are intended to be used in Spokes, MB, HB, HEBT, A2T and DumpL. Two types of feedthroughs have been designed to satisfy the specifications for all the sections of the machine in terms of beam position and phase requirements, however different types of housing are accepted.

Documentation references

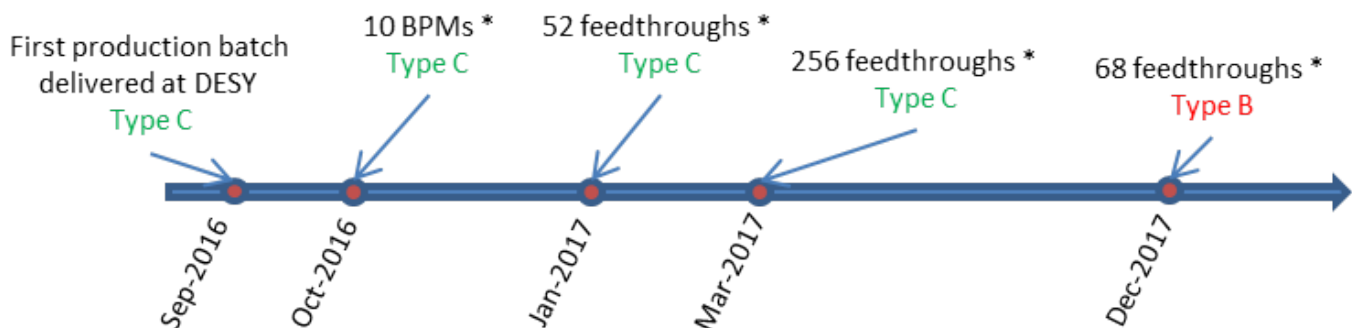
- [Quality checks - LWU feedthroughs - DESY_v1.pdf](#)
- [BPM - Signal Analysis and requirements.pdf](#)

Coordination

Groups and primary contacts engaged on this design and production are listed below.

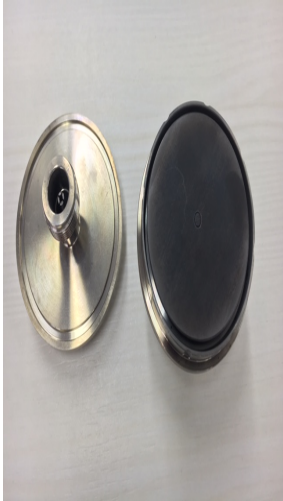

Group	Contact	
ESS - BD	Rafael Baron	
DESY	Silke Vilcins-Czvitkovits, Dirk Lipka, Maximilian Holz	
STFC Daresbury	Paul Aden	




Milestones



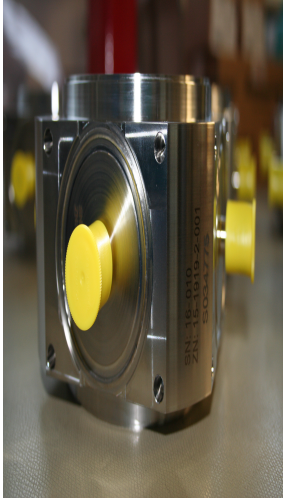



* Delivered at Daresbury

Status Reports


Date	Description	Authors	Uploaded files / additional information	Status
20-Sep-2016	First feedthroughs arrived at DESY. Uploaded pictures and visual inspection.	Silke Vilcins-Czvitkovits - DESY	 	done
08-Oct-2016	BC-Tech shipped 46 feedthroughs to DESY	Silke Vilcins-Czvitkovits - DESY		done
10-Oct-2016	15 BPM housings are at DESY - under cleaning process	Silke Vilcins-Czvitkovits - DESY		
12-Oct-2016	46 feedthroughs arrived at DESY	Silke Vilcins-Czvitkovits - DESY		done
18-Oct-2016	First batch of feedthroughs did not pass on the quality checks - Feedthroughs returned to BC-Tech for inspection. Problem on the glass ceramics insulator manufacturing process.	Silke Vilcins-Czvitkovits - DESY	Report Quality check - batch 1.pdf	done
20-Oct-2016	Shipping 8 feedthroughs and 2 BPM housings to Daresbury	Silke Vilcins-Czvitkovits - DESY		DESY will ship complete BPM assemblies
07-Nov-2016	New feedthroughs are under manufacturing at BC-Tech.	Rafael Baron		done

10-Nov-2016	New delivery schedule provided by DESY	Rafael Baron	<p>1.) week 49 QC at DESY</p> <p>2.) week 49 Ship to FMB (will bring them) and welding, Leaktest and QC week 50</p> <p>3.) Week 50 welding rest and Leaktest and QC</p> <p>4.) week 2 send to Daresbury.</p>	done
 18 Jan 2017	<ul style="list-style-type: none"> • BPMs received at DESY • BC-tech manufacturing the series production • BPMs under test 	Silke Vilcins-Czvitkovits - DESY		in progress
 18 Jan 2017	Production files format and QC format	Rafael Baron - ESS	<p>data samples:</p> <p>S12: 16-002-C_S12.meas</p> <p>S22: 16-002-C_S22.meas</p> <p>QC-sheet: Quality Control-doc.xlsx</p> <p>script plots: bpm_sensor_plots.m</p>	done

<div>01 Feb 2017</div>	Production Batch 20170102 ready for test	Silke Vilcins-Czvitkovits - DESY Rafael Baron - ESS	  	done
<div>07 Feb 2017</div>	Production Batch 20170102 tested and shipped	Rafael Baron - ESS	Production RF measurements: S11 , S12 , S21 , S22 Production Batch 20170102 documentation available Matlab scripts for production checks	done
<div>15 Feb 2017</div>	Production Batch 20170102 received at Daresbury	Rafael Baron - ESS	Daresbury quality checks and tests ongoing	

 14 Mar 2017	DESY production report	Rafael Baron - ESS	1.) 50 feedthroughs are at DESY, QC done and RF measurement done, pairing done, next steps UHV cleaning, leaktest and final QC an DESY Zeuthen week 12 1. Week 13 start of welding the next 11 BPM bodies, maybe 2 weeks 2. Week 15 leak test 3. Week 16 shipping the Hamburg, final inspection and final RF measurement 4. Week 17 shipping to Daresbury 2.) 29 new bodies are manufactured and in the internal process of marking, QC and cleaning 3.) Next 134 feedthroughs are in the copper plating process, final delivering date will come out tomorrow	done

Production Files

Date	Description	Authors	Uploaded files	Status
 07 Feb 2017	<ul style="list-style-type: none"> Production Test Report for Batch_20170102 Includes the production RF, mechanical measurements, Quality checks and reports on the acceptance criterias. 	DESY: Silke Vilcins-Czvitkovits, Maximilian Holz, Dirk Lipka ESS: Rafael Baron	Batch_20170102 Production Files Batch_20170102 PASS-FAIL Test Report Batch_20170102 Quality Checks Batch_20170102 Leak Tests	Done

II) MEBT BPMs

Introduction:

MEBT stripline BPMs were designed in cooperation between ESS and ESS Bilbao.

Documentation references

- Project quality plan

Coordination

Groups and primary contacts engaged on this design production are listed below.

Group	Contact	
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ESS - BD	Rafael Baron	
ESS Bilbao	Seadat Varnasseri	

Milestones

- Add plot with the milestones

Status Reports

Date	Description	Authors	Uploaded files

III) DTL BPMs

Introduction:

DTL shorted stripline BPMs are being designed and manufactured by INFN Legnaro.

Documentation references

- Project quality plan
- Documentation about the simulations and performance of the MEBT BPMs.

Coordination


Groups and primary contacts engaged on this design production are listed below.

Group	Contact	
ESS - BD	Rafael Baron	
INFN Legnaro	Marco Poggi	

Milestones

- Add plot with the milestones

Status Reports

Date	Description	Authors	Uploaded files
 22 Sep 2016	Second stripline prototype	Marco Poggi	