BT-Lab and EC-Lab OLE COM User Manual

EC-Lab v11.60 - January 2024



Table of contents

1	Inti	roduction3
2	OL	E COM Activation for BT-Lab and EC-Lab4
	2.1	BT-Lab or EC-Lab in OLE-COM mode
3	Fui	nctions List6
	3.1	List
	3.2	
		.1 ConnectDevice (DeviceNumber : integer) : Integer ;
		.2 DisconnectDevice (DeviceNumber : integer) : Integer ;
	3.2	.3 TestConnection(DeviceNumber : integer) : integer ;
	3.2	
	3.2	
		h: Widestring): Integer;
		.6 RunChannel(Device number: integer; Channel number: integer; File name absolute
		h: Widestring): Integer;
		.7 StopChannel (Device number: integer; Channel number: integer): Integer; 8 .8 GetDataFileName(DeviceNumber: integer; ChannelNumber: integer
		chniqueNumber: integer, out Filename : OleVariant) : Integer;
		.9 MeasureStatus(Device number: integer; Channel number: integer; out StatusVarian
		eVariant (Current values, Safety limits status, connection status)): Integer;
		.10 MeasureNumberOfPoints(File name absolute path: Widestring): integer; 11
		.11 MeasureDcValue(File name absolute path: Widestring; Data index: Integer
	Arr	ayValue: OleVariant(Experiment elapsed time [sec], Voltage [V], Current [A])): Integer
	2.0	11
		.12 MeasureEisValue(File name absolute path: Widestring; Data index: Integer ayValue : OleVariant(Experiment elapsed time [sec], Frequency [Hz], real [Ohm]
		aginary [Ohm])) : Integer;
		.13 ConnectDeviceByIP (const IPaddress: WideString; out DeviceNumber: SYSINT)
	HR	esult; 11
		.14 GetDeviceSN (DeviceNumber: integer; out DeviceSN: integer, out
	Мо	duleSNArray: OleVariant(array[015] of integer); out FunctionResult: integer): HResult
	2.0	12
	3.2	 .15 SelectDevice (Device: SYSINT; out FunctionResult: SYSINT): HResult;
	3.2	12
	3.2	.17 MeasureValueByCode (const FileName: WideString; VarCode: integer
		talndex: integer;
		.18 Measure Value ByID (const File Name, VarID: Wide String; DataIndex: SYSINT; ou
		ta: Double; out FunctionResult: SYSINT): HResult;
		.19 GroupChannels (in NbChannels: integer; in ChannelsArray
		eVariant(array[02xNbChannels] of integer; out FunctionResult: integer): HResult; 13 .20 GetDeviceType: Not implemented
		.21 GetExperimentInfos (DeviceNumber, ChannelNumber: SYSINT; ou
	Exp	oStartTime, ExpEndTime, ExpPath, ExpDataFiles: OleVariant; out FunctionResult SINT): HResult;
		.22 CopyMpsToMps(const InFileName: WideString; var OutFileName: WideString; ou
		nctionResult: SYSINT): HResult; Not implemented
		.23 CopyMprToMps(const InFileName: WideString; var OutFileName: WideString; ou
		nctionResult: SYSINT): HResult; stdcall; Not implemented
	3.2	.24 CopyMptToMps(const InFileName: WideString; var OutFileName: WideString; ou
	Fur	nctionResult: SYSINT): HResult; stdcall; Not implemented

		25 EnableMessagesWindows(const EnabledWinMess: SYSINT; out FunctionRe	
		INT): HResult;26 GetSoftwareVersion: WideString; out FunctionRe	
		INT): HResult; Not implemented	
		27 GetChannelInfos(Device: SYSINT; Channel: SYSINT; out Channelle /ariant; out FunctionResult: SYSINT): HResult;	
		28 TestStand functions	
4	Ann	ex	17
	4.1	Correspondance Technique code <-> Technique name	17
	4.2	Relevant current values according to technique	20
	4.3	Get current sequence and iteration number	21
	4.4	Variables codes	22
	4.5	Amplifier codes	27
5	Tecl	hnical specifications	29
	5.1	BT-Lab and EC-Lab minimum version requirement	29
	5.2	PC minimal requirement	20

1 Introduction

The OLE COM mode allows to pilot BT-Lab or EC-Lab software from LABVIEW for example, or any programming language that support the OLE COM.

By this way, one can develop applications that controls the instruments that are connected to BT-Lab and EC-Lab software.

In order to use OLE COM it is necessary to:

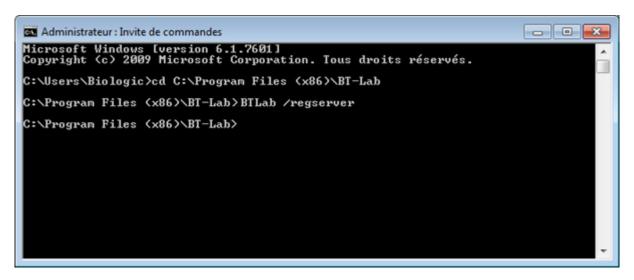
- 1. Activate the OLE COM mode for BT-Lab or EC-Lab. Once done BT-Lab or EC-Lab will act as an OLE COM server and will respond to any third party software that will connect to it.
- 2. Then the third party software has to connect to the BT-Lab or EC-Lab OLE COM server.
- 3. Use a list of commands to pilot BT-Lab or EC-Lab and perform experiments.

2 OLE COM Activation for BT-Lab and EC-Lab

By default, BT-Lab and EC-Lab are not registered to act as an OLE COM server. This has to be done to pilot these softwares by OLE COM commands.

Activation:

- Open an MS-DOS window. Warning: you must have administrator rights to register an OLE COM server. Thus, if you are not the PC administrator, select "run as administrator".
- Go to the BT-Lab or EC-Lab installation folder (for example c:\Program Files (x86)\BT-Lab).
- For BT-Lab, type the command:
 - o BTLab /regserver
- For EC-Lab, type:
 - ECLab /regserver



Note that there is no confirmation message. Nevertheless, if you have no administrator rights, there is an error message that informs you that the operation failed.

Deactivation:

By the same way, one can deactivate the OLE COM mode. Open an MS-DOS shell window into the application folder, type:

- For BT-Lab:
 - o BTLab /unregserver
- For EC-Lab
 - ECLab /unregserver

2.1 BT-Lab or EC-Lab in OLE-COM mode

Once connected by a third party software in OLE COM mode the BT-Lab and EC-Lab software will display an OLECOM mode text within the status bar:



During OLECOM messages EC-Lab and BT-Lab will switch to an automatic mode and will not ask user for actions, like: "Run Experiment?" YES / NO. In that case YES response will be selected automatically. And then return to normal behavior when between OLECOM messages.

To fully disabled EC-Lab and BT-Lab messages you should use the function EnabledMessagesWindows (see § 3.2.25 page 14)

3 Functions List

3.1 List

Basic functions

Functions	TS	In BT/EC	Description
ConnectDevice	TS	BT & EC	Connect the selected device
DisonnectDevice	TS	BT & EC	Disconnect the selected device
LoadSettings	TS	BT & EC	Load input file settings to a channel
RunChannel	TS	BT & EC	Run the selected channel
StopChannel	TS	BT & EC	Stop the selected channel
MeasureStatus	TS	BT & EC	Return input device and channel current values
MeasureNumberOfPoints	TS	BT & EC	Return the number of points of input data file
MeasureDcValue	TS	BT & EC	Return one point from a DC data file
MeasureEisValue	TS	BT & EC	Return one point from an EIS data file

Other functions

Functions	TS	In BT/EC	Description	
TestConnection		BT & EC	Return if input device is connected	
GetDeviceChannelList	TS	BT & EC	Return input device channel list	
GetDataFileName	TS	BT & EC	Return input channel data file name	
ConnectDeviceByIP	TS	BT & EC	Connect device by IP address	
GetDeviceSN		BT & EC	Return input device serial number	
GroupChannels		BT & EC	Group channels	
SelectDevice		BT & EC	Select a Device	
SelectChannel		BT & EC	Select a Channel	
GetDeviceType		BT & EC	Not implemented	
GetExperimentInfos		BT & EC	Get data from an experiment	
MeasureValueByCode		BT & EC	Return one point from a data file by its code	
MeasureValueByID		BT & EC	Return one point from a data file by its name	
CopyMpsToMps		BT & EC	Not implemented	
CopyMprToMps		BT & EC	Not implemented	
CopyMptToMps		BT & EC	Not implemented	
EnableMessagesWindows		BT & EC	Disabled EC-Lab/BT-Lab popup windows during	
			OLECOM session	
GetSoftwareVersion		BT & EC	Not implemented	
GetChannelInfos B		BT & EC	Get channel informations : amplifier, optionq	
TestStand functions			Same functions but with _TS suffix for TestStand soft-	
			ware compatibility.	

The functions are present in both BT and EC -Lab. The check is done for BT & EC. The TS stands for TestStand functions.

3.2 Description

Below are specified the functions parameters.

3.2.1 ConnectDevice (DeviceNumber : integer) : Integer ;

• Input

- Device number: device number in the list (0-based)
- Output
 - Result=1 if the device is connected, 0 else

3.2.2 DisconnectDevice (DeviceNumber : integer) : Integer ;

- Input
 - Device number: device number in the list (0-based)
- Output
 - o Result=1 if the disconnection is done. 0 if the disconnection failed

3.2.3 TestConnection(DeviceNumber : integer) : integer ;

- Input
 - Device number: device number in the list (0-based)
- Output
 - o Result=1 if the device is connected, 0 else

3.2.4 GetDeviceChannelList(out : ChannelArray : OleVariant(array[0..127] of WordBool) : Integer;

- Output
 - ChannelArray is an array of 128 channels with value 1 if channel is connected and 0 if channel is not connected. Up to 128 channels can be available for the BCS in BT-Lab, only the first 16 values are available for EC-Lab instruments.
 - o Result=1 if the array is correct. 0 if the array cannot be filled.

3.2.5 LoadSettings (Device number: integer; Channel number: integer; File name absolute path: Widestring): Integer;

- Input
 - Device number: device number in the list (0-based)
 - Channel number: channel number (0-based)
 - File name absolute path: settings file (.mps or .mpr file)
- Output
 - o Result=1 if the settings are correctly loaded. 0 if the loading failed

Note: This function will load the settings and will apply at the same time all the GUI modifications in BT/EC-Lab (modify + accept). Furthermore, this function will return false if the settings are not compatible with the hardware (Bandwidth, Irange, ...).

3.2.6 RunChannel(Device number: integer; Channel number: integer; File name absolute path: Widestring): Integer;

- Input
 - Device number: device number in the list (0-based)
 - Channel number: channel number (0-based)
 - File name absolute path: Name of the output file
- Output
 - Launch a run. Result=1 if the run is correctly started. 0 if the run failed

- 3.2.7 StopChannel (Device number: integer; Channel number: integer): Integer;
 - Input
 - Device number: device number in the list (0-based)
 - Channel number: channel number (0-based)
 - Output
 - O Stop a run. Result=1 if the stop is correctly done. 0 if the stop failed
- 3.2.8 GetDataFileName(DeviceNumber: integer ; ChannelNumber: integer; TechniqueNumber: integer, out Filename : OleVariant) : Integer;
 - Input
 - Device number: device number in the list (0-based)
 - Channel number: channel number (0-based)
 - Technique number: technique number in the list (0-based)
 - Output
 - o Filename: the name of the .mpr corresponding
 - Result=1 if the filename is correct else 0.
- 3.2.9 MeasureStatus(Device number: integer; Channel number: integer; out StatusVariant :OleVariant (Current values, Safety limits status, connection status)): Integer;
 - Input
 - Device number: device number in the list (0-based)
 - Channel number: channel number (0-based)
 - Output
 - StatusVariant is an array of 32 real values:

Index	Variable	Values
		Stop = 0
		Run = 1
		Pause = 2
0	Status (see 1 below)	Sync = 3
		Stop_rec1 = 4
		Stop_rec2 = 5
		Pause_rec = 6
		Oxidation = 0
1	Ox/Red	Reduction =1
		OCV = 0
2	OCV	Other = 1
		EIS = 0
3	EIS	No EIS = 1
		Index of the technique into [0;19]
4	Technique number	(0-based)
5	Technique code	See annex 4.1
6	Sequence Number	
7	Current loop iteration number	See annex 4.3
	·	
8	Current sequence within loop number	See anney 4.3
8	current sequence within 100p number	See annex 4.5
9	Loop experiment iteration number	
10	Cycle number	For CV, EIS, VASP, CASP
11	Counter 1	For CV, ECN, SPFC, PR
12	Counter 2	Technique PR
13	Counter 3	Technique PR
15		recinique i it

14	Buffer Size	
15	Time	In s
16	Ewe	In V
17	Ece	In V
18	Eoc	In V
19	I	In A
20	Q-Q0	In A.h
21	Aux1	
22	Aux2	
23	Irange	In A
24	R Compensation	In Ohm
25	Frequency	In Hz
26	S Z In Ohm	
27	Current point index	
28	Total point index	
29	T°	In °C
30	Safety limit	Ok = 0 Emax = 1 Emin = 2 I = 3 Q-Q0 = 4 Ewe min stack = 7 Ece min stack = 8 Ewe max stack = 9 Ece max stack = 10
31	Connection	Ok = 0 Disconnected = 1

o Result = 1 if the StatusVariant is correct, 0 else.

Warning: Fields are not reset if they are not relevant (see annex 4.2): for example, if you set an EIS technique with 38 points, at the end 'Current point index' and 'Total point index' will be '38'. Then if you run an OCV technique, 'Current point index' and 'Total point index' will always be '38'. This function refresh the currents values.

(1) Below are described the status different values (variable 0):

Status	Value	Description
Stop	0	Channel is stopped
Run	1	Channel is running
Pause	2	Channel is paused

Sync	3	Channel is in synchronize mode i.e. it is waiting to the others ones (technique SYNC)
Stop_rec1	4	Special status between Run and Stop where the last points of the technique are being recorded
Stop_rec2	5	~ Stop_rec1
Pause_rec	6	Channel is paused and is recording some points (every 1h or 100 mV). This state is activated if a safety limit is reached.

3.2.10 MeasureNumberOfPoints(File name absolute path: Widestring): integer;

- Input
 - File name absolute path (.mpr file)
- Output
 - o The number of points contained into the input file.

3.2.11 MeasureDcValue(File name absolute path: Widestring; Data index: Integer; ArrayValue : OleVariant(Experiment elapsed time [sec], Voltage [V], Current [A])) : Integer;

- Input
 - Data index: index in the raw data file (0-based)
 - File name absolute path (.mpr file)
- Output
 - ArrayValue will be an array of data of the selected point in mpr file: < Experiment elapsed time in sec, Voltage in V, Current in A>
 - Result=1 if ArrayValue is filled correctly else 0.

3.2.12 MeasureEisValue(File name absolute path: Widestring; Data index: Integer; ArrayValue : OleVariant(Experiment elapsed time [sec], Frequency [Hz], real [Ohm], Imaginary [Ohm])) : Integer;

- Input
 - Data index: index in the raw data file (0-based)
 - o File name absolute path (.mpr file)
- Output
 - ArrayValue will be an array of data of the selected point in mpr file: <Experiment elapsed time in sec, Frequency in Hz, Real in Ohm, Imaginary in Ohm>
 - Result=1 if ArrayValue is fill correctly else 0.

For DC techniques (OCV, CA, CP...), user should call MeasureDcValue() to retrieve values. Noticed that for the OCV techniques, the current value will be set to zero.

For EIS techniques (), user could use both functions MeasureDcValue() and MeasureEisValue().

MeasureEisValue() will return only the EIS values. If the point does not correspond to an EIS period, the returned frequency will be set to zero. Note that the Imaginary value is -Im(Z).

For invalid parameters, all returned values will be set to zero.

Note: These functions don't return cycles, charges or loop.

3.2.13 ConnectDeviceByIP (const IPaddress: WideString; out DeviceNumber: SYSINT): HResult;

- Input
 - IPaddress: IP address of the device to connect
- Output

- DeviceNumber: Device number in the list (0-based)
- Result=1 if the device is connected, 0 else.
- · Description:

If the IP address of the device to connect is not into EC-Lab device list, it will be added to the list and EC-Lab will attempt to connect to the device. If the connection succeeds the device list number (0-based) is returned.

3.2.14 GetDeviceSN (DeviceNumber: integer; out DeviceSN: integer, out ModuleSNArray: OleVariant(array[0..15] of integer); out FunctionResult: integer): HResult;

Return device and modules serial numbers:

Variable	BCS	VMP
DeviceSN	BCS-COM SN	Instrument SN
ModuleSNArray[i] (I, 0-based)	BCS-8xx #i SN	Channel #i SN

If the module is not connected or the channel is not plugged then its serial number is set to 0.

3.2.15 SelectDevice (Device: SYSINT; out FunctionResult: SYSINT): HResult;

Select a Device

- Input
 - Device number: device number in the list (0-based)
- Output
 - FunctionResult =1 if the device is connected, 0 else
 - Result=FunctionResult

3.2.16 SelectChannel (Device, Channel: SYSINT; out FunctionResult: SYSINT): HResult;

- Input
 - Device number: device number in the list (0-based)
 - Channel number: channel number in the list (0-based)
- Output
 - FunctionResult =1 if the device and the channel are selected, 0 else
 - o Result=FunctionResult

3.2.17 MeasureValueByCode (const FileName: WideString; VarCode: integer; DataIndex: integer;

out Data: Double; out FunctionResult: SYSINT): Integer;

- Input
 - File name absolute path (.mpr file)
 - Data index: index in the raw data file (0-based)
 - o VarCode: the code of the requested variable (cf. § 4.4 Variables codes in annex)
- Output
 - Data: the value of the variable
 - FunctionResult=1 if success else 0
 - Result=FunctionResult

3.2.18 MeasureValueByID(const FileName, VarID: WideString; DataIndex: SYSINT; out Data: Double; out FunctionResult: SYSINT): HResult;

- Input
 - o File name absolute path (.mpr file)

- o VarID: Name of the variable as it appears in the interface (cf. variables codes in annex)
- DataIndex: index in the raw data file (0-based)
- Output
 - Data: the value of the variable
 - FunctionResult=1 if success else 0
 - Result=FunctionResult

3.2.19 GroupChannels (in NbChannels: integer; in ChannelsArray : OleVariant(array[0..2xNbChannels] of integer; out FunctionResult: integer): HResult;

Group channels from several devices.

Inputs

- NbChannels: the number of channels to group.
- ChannelsArray: the array of channels to group, 2 integers for each channel: the first is the device number, the second is the channel index

Output

- functionRes: 1 if the groupage is done, 0 else.

Warning: All channels must be identical: same device type, same amplifier, same head, same EIS option

3.2.20 GetDeviceType: Not implemented

3.2.21 GetExperimentInfos (DeviceNumber, ChannelNumber: SYSINT; out ExpStartTime, ExpEnd-Time, ExpPath, ExpDataFiles: OleVariant; out FunctionResult: SYSINT): HResult;

- Input
 - Device number: device number in the list (0-based)
 - Channel number: channel number in the list (0-based)
- Output
 - o experiment start dateTime: string with AAAA-MM-JJ HH:MN:SS.ms format
 - experiment end dateTime calculated: string with the same format as above
 - o experiment's files path: string containing the directory where to find the .mpr files
 - ExpDataFiles: data filenames in a varArray of strings, 0-based
 - FunctionResult =1 if the data are returned, 0 else
 - o Result=
 - S OK (0) if the data are returned
 - S_FALSE(1) if the experiment is in an inconsistent mode (mainly while modifying the experiment or before starting it)
 - E_FAIL(\$80004005) in all other cases

3.2.22 CopyMpsToMps(const InFileName: WideString; var OutFileName: WideString; out FunctionResult: SYSINT): HResult; Not implemented

3.2.23 CopyMprToMps(const InFileName: WideString; var OutFileName: WideString; out Function-Result: SYSINT): HResult; stdcall; Not implemented

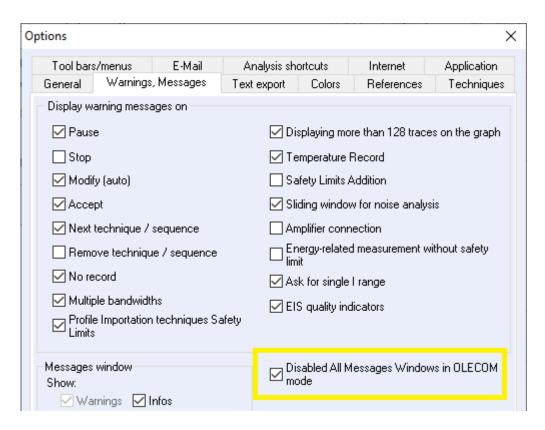
- 3.2.24 CopyMptToMps(const InFileName: WideString; var OutFileName: WideString; out Function-Result: SYSINT): HResult; stdcall; Not implemented
- 3.2.25 EnableMessagesWindows(const EnabledWinMess: SYSINT; out FunctionResult: SYSINT): HResult;
 - Input
 - o EnabledWinMess:
 - If 1 then EC-Lab/BT-Lab can display popup messages (between OLECOM messages). OLECOM mode is displayed in blue in EC-lab/BT-Lab main window
 - If 0 then EC-Lab/BT-Lab will no longer display popup messages. OLECOM mode is displayed in orange in EC-lab/BT-Lab main window
 - Output
 - FunctionResult =1 if the data are returned, 0 else
 - o Result=
 - S_OK (0) if the data are returned
 - S_FALSE(1) if the experiment is in an inconsistent mode (mainly while modifying the experiment or before starting it)
 - E FAIL(\$80004005) in all other cases
 - EC-Lab / BT-Lab GUI

The OLECOM panel color changes to orange when the windows messages are disabled:





This option can be activated manually within the EC-Lab and BT-Lab into Config, Options, Warning, Messages, Disabled All Messages Windows in OLECOM mode check box :



This option is saved between EC-Lab / BT-Lab sessions. Nevertheless, it is better to call the EnableMessagesWindows() to force the mode independently from the GUI.

Note that when Windows messages are disabled, some actions are not possible within EC-Lab / BT-Lab, because messages windows are removed, ex: it is then not possible to run an experiment, because the saved file name is switched to the OLECOM message RunChannel (§ 3.2.6 page 7).

3.2.26 GetSoftwareVersion(out SoftwareVersion: WideString; out FunctionResult: SYSINT): HResult; Not implemented

3.2.27 GetChannelInfos(Device: SYSINT; Channel: SYSINT; out ChannelInfos: OleVariant; out FunctionResult: SYSINT): HResult;

- Input
 - Device number: device number in the list (0-based)
 - Channel number: channel number in the list (0-based)
- Output
 - ChannelInfos[]: array of 5 elements
 - ChannelInfos[0] = channel serial number
 - ChannelInfos[1] = channel amplifier ID (cf. § 4.5 Amplifier codes in annex)
 - ChannelInfos[2] = not implemented
 - ChannelInfos[3] = channel option (VMP-300 only)

Channel option code	Description
0	None
1	Standard
2	Low current
3	special

34	HV48
50	ULC coatings

- ChannelInfos[4] = not implemented
- o FunctionResult =1 if the data are returned, 0 else
- Result=
 - S OK (0) if the data are returned
 - S_FALSE(1) if the experiment is in an inconsistent mode (mainly while modifying the experiment or before starting it)
 - E_FAIL(\$80004005) in all other cases

3.2.28 TestStand functions

Most of the functions are duplicated with _TS suffix for TestStand software compatibility. The function with and without _TS are performing exactly the same way, except that:

- The _TS function duplicate the return value into its last FunctionResult argument.
- The _TS function return a HResult instead of an integer.

Exemple:

- ConnectDevice (DeviceNumber : integer) : Integer ;
- ConnectDevice_TS (DeviceNumber : integer; out FunctionResult: integer) : HResult ;

4 Annex

4.1 Correspondance Technique code <-> Technique name

1 P	dyn	Potentiodynamic Pitting
2 C	Pol	Cyclic Polarization
3 N	/UIC	Measure of U-I Correlation
4 G	SCPL	Galvanostatic Cycling with Potential Limitation
5 P	PCGA	Potentiodynamic Cycling with Galvanostatic Acceleration
6 C	CV	Cyclic Voltammetry
7 P	otPit	Potentiostatic Pitting
3 P	PR	Polarization Resistance
9 P	C.	Potential Manual Control
10 Z	CVC	Zero Voltage Current
11 C	OCV	Open Circuit Voltage
12 G	SCPL2	Galvanostatic Cycling with Potential Limitation 2
13 N	IPV	Normal Pulse Voltammetry
14 S	PFC	Stepwise Potential Fast Chronoamperometry
15 R	RNPV	Reverse Normal Pulse Voltammetry
16 A	PGC	Alternate Pulse Galvano Cycling
17 C	PT	Critical Pitting Temperature 1
18 E	CN	Electrochemical Noise (ASTM-G199)
19 G	GCPL3	Galvanostatic Cycling with Potential Limitation 3
20 D)P	Depassivation Potential
21 M	/IG	Modular Galvano
22 M	/IP	Modular Potentio
23 C	PP	Cyclic Potentiodynamic Polarization (ASTM-G61)
24 C	A	Chronoamperometry / Chronocoulometry
25 C	P	Chronopotentiometry
26 IC	С	Current Manual Control
27 L	.oop	Loop
28 V	VAIT	Wait
29 P	PEIS	Potentio Electrochemical Impedance Spectroscopy
30 G	SEIS	Galvano Electrochemical Impedance Spectroscopy
31 C	PT2	Critical Pitting Temperature 2 (ASTM-G150)
32 L	.PR	Linear Polarization Resistance (ASTM-G59)
33 G	GCPL4	Galvanostatic Cycling with Potential Limitation 4
34 D	PV	Differential Pulse Voltammetry
35 C	LD	Constant Load Discharge
36 C	PW	Constant Power
37 G	GCPL5	Galvanostatic Cycling with Potential Limitation 5
38 T	O	Trigger Out

40 SV Staircase Voltammetry 41 SOCV Special Open Circuit Voltage 42 SMP Special Modular Potentio 43 SMG Special Modular Potentio 44 SGCPL Special Modular Galvano 44 SGCPL Special Galvanostatic Cycling with Potential Limitation 45 SPEIS Staircase Potentio Electrochemical Impedance Spectroscopy (Mott-Schottky) 46 SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy 47 SWV Square Wave Voltammetry 48 EVT Ecorr vs. Time 49 CM Corrosimetry (Rp vs. Time) 50 ZIR IR compensation (PEIS) 51 CVA Cyclic Voltammetry Advanced 52 DNPV Differential Normal Pulse Voltammetry 53 DPA Differential Pulse Amperometry 54 CA Chronoamperometry 55 OCV Open Circuit Voltage 56 CP Chronopotentiometry 57 CV Cyclic Voltammetry 58 PDYN Potentiodynamic 59 GDYN Galvanodynamic 60 PEIS Potentio Electrochemical Impedance Spectroscopy 61 GEIS Galvano Electrochemical Impedance Spectroscopy 62 SPEIS Staircase Potentio Electrochemical Impedance Spectroscopy 63 SGEIS Staircase Potentio Electrochemical Impedance Spectroscopy 64 PEIS Potentio Electrochemical Impedance Spectroscopy 65 GDYN Galvanodynamic no Stack 66 PDYN Potentiodynamic no Stack 67 GDYN Galvanodynamic no Stack 68 LOOP Loop 69 CV ADV Cyclic Voltammetry Advanced 70 DPV Differential Pulse Voltammetry 71 SWV Square Wave Voltammetry 72 NPV Normal Pulse Voltammetry 73 RNPV Reverse Normal Pulse Voltammetry 74 DNPV Differential Pulse Amperometry 75 DPA Differential Pulse Amperometry 76 EVT Ecorr vs. Time 77 LP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Voltiotynamic Polarization	39	TI	Trigger In
SOCV Special Open Circuit Voltage SMP Special Modular Potentio SMG Special Modular Galvano SMG Special Modular Galvano SGCPL Special Galvanostatic Cycling with Potential Limitation SFEIS Staircase Potentio Electrochemical Impedance Spectroscopy (Mott-Schottky) SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy SWV Square Wave Voltammetry ECD CM Corrosimetry (Rp vs. Time) SIR IR compensation (PEIS) CVA Cyclic Voltammetry Advanced DPNP Differential Normal Pulse Voltammetry CA Chronoamperometry CA Chronoamperometry CA Chronopotentiometry CA Chronopotentiometry CVA Cyclic Voltammetry CVA Cyclic Voltammetry CVA Cyclic Voltammetry CVA Cyclic Voltammetry CA Chronopotentiometry CA Chronopotentiometry CA Chronopotentiometry CA Chronopotentiometry CA Cyclic Voltammetry CA Galvano Electrochemical Impedance Spectroscopy CA Cyclic Voltammetry Advanced CA Cyclic Voltammetry CA Cyclic Voltamm	40		
SMP Special Modular Potentio SMG Special Modular Galvano SMG Special Modular Galvano 44 SGCPL Special Galvanostatic Cycling with Potential Limitation 45 SPEIS Staircase Potentio Electrochemical Impedance Spectroscopy (Mott-Schottky) 46 SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy 47 SWV Square Wave Voltammetry 48 EVT Ecorr vs. Time 49 CM Corrosimetry (Rp vs. Time) 50 ZIR IR compensation (PEIS) 51 CVA Cyclic Voltammetry Advanced 52 DNPV Differential Normal Pulse Voltammetry 53 DPA Differential Pulse Amperometry 54 CA Chronoamperometry 55 OCV Open Circuit Voltage 56 CP Chronopotentiometry 57 CV Cyclic Voltammetry 58 PDYN Potentiodynamic 59 GDYN Galvanodynamic 60 PEIS Potentio Electrochemical Impedance Spectroscopy 61 GEIS Galvano Electrochemical Impedance Spectroscopy 62 SPEIS Staircase Potentio Electrochemical Impedance Spectroscopy 63 SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy 64 PEIS Potentio Electrochemical Impedance Spectroscopy 65 GEIS Galvano Electrochemical Impedance Spectroscopy 66 PDYN Optentiocynamic on Stack 67 GDYN Galvanodynamic on Stack 68 LOOP Loop 69 CV ADV Cyclic Voltammetry 70 DPV Differential Pulse Voltammetry 71 SWV Square Wave Voltammetry 72 NPV Normal Pulse Voltammetry 73 RNPV Reverse Normal Pulse Voltammetry 74 DNPV Differential Pulse Amperometry 75 DPA Differential Pulse Amperometry 76 EVT Ecorr vs. Time 77 Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization	41		·
43 SMG Special Modular Galvano 44 SGCPL Special Galvanostatic Cycling with Potential Limitation 45 SPEIS Staircase Potentio Electrochemical Impedance Spectroscopy (Mott-Schottky) 46 SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy 47 SWV Square Wave Voltammetry 48 EVT Ecorr vs. Time 49 CM Corrosimetry (Rp vs. Time) 50 ZIR IR compensation (PEIS) 51 CVA Cyclic Voltammetry Advanced 52 DNPV Differential Normal Pulse Voltammetry 53 DPA Differential Pulse Amperometry 54 CA Chronoamperometry 55 OCV Open Circuit Voltage 66 CP Chronopotentiometry 67 CV Cyclic Voltammetry 68 PDYN Potentiodynamic 69 PEIS Potentio Electrochemical Impedance Spectroscopy 60 PEIS Staircase Potentio Electrochemical Impedance Spectroscopy 61 SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy 62 SPEIS Staircase Galvano Electrochemical Impedance Spectroscopy 63 SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy 64 PEIS Potentio Electrochemical Impedance Spectroscopy 65 SGEIS Galvano Electrochemical Impedance Spectroscopy 66 POYN Galvanodynamic on Stack 67 GDYN Galvanodynamic on Stack 68 POYN Potentiodynamic on Stack 69 POYN Potentiodynamic on Stack 60 POYN Galvanodynamic on Stack 61 GDYN Galvanodynamic on Stack 62 SPEIS Staircase Potentio Electrochemical Impedance Spectroscopy on Stack 63 SGEIS Galvano Electrochemical Impedance Spectroscopy on Stack 64 POYN Potentiodynamic on Stack 65 POYN Galvanodynamic on Stack 66 POYN Square Wave Voltammetry 71 SWV Square Wave Voltammetry 72 SWP Square Wave Voltammetry 73 NPV Square Wave Voltammetry 74 SWP Square Buse Voltammetry 75 DPA Differential Pulse Amperometry 76 EVT Ecor vs. Time 77 LIP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization			· · · ·
SGCPL Special Galvanostatic Cycling with Potential Limitation SPEIS Staircase Potentio Electrochemical Impedance Spectroscopy (Mott-Schottky) SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy 46 SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy 47 SWV Square Wave Voltammetry 48 EVT Ecorr vs. Time 49 CM Corrosimetry (Rp vs. Time) 50 ZIR IR compensation (PEIS) 51 CVA Cyclic Voltammetry Advanced 52 DNPV Differential Normal Pulse Voltammetry 53 DPA Differential Pulse Amperometry 54 CA Chronoamperometry 55 OCV Open Circuit Voltage 56 CP Chronopotentiometry 57 CV Cyclic Voltammetry 58 PDYN Potentiodynamic 60 PEIS Potentio Electrochemical Impedance Spectroscopy 61 GEIS Galvano Electrochemical Impedance Spectroscopy 62 SPEIS Staircase Potentio Electrochemical Impedance Spectroscopy 63 SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy 64 PEIS Potentio Electrochemical Impedance Spectroscopy 65 GEIS Galvano Electrochemical Impedance Spectroscopy 66 GEIS Galvano Electrochemical Impedance Spectroscopy 67 SCEIS Staircase Galvano Electrochemical Impedance Spectroscopy 68 SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy 69 GEIS Galvano Electrochemical Impedance Spectroscopy 60 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 61 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 62 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 63 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 64 PDYN Potentiodynamic on Stack 65 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 66 PDYN Potentiodynamic on Stack 67 GDYN Galvanodynamic on Stack 68 PDYN Potentiodynamic Polarization 79 Normal Pulse Voltammetry 70 Normal Pulse Voltammetry 71 SWV Square Wave Voltammetry 72 NPV Normal Pulse Voltammetry 73 RNPV Reverse Normal Pulse Voltammetry 74 DNPV Differential Pulse Amperometry 75 DPA Differential Pulse Amperometry 76 EVT Ecorr vs. Time 77 LP Licer Polarization 78 GC Generalized Corrosion			·
45 SPEIS Staircase Potentio Electrochemical Impedance Spectroscopy (Mott-Schottky) 46 SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy 47 SWV Square Wave Voltammetry 48 EVT Ecorr vs. Time 49 CM Corrosimetry (Rp vs. Time) 50 ZIR IR compensation (PEIS) 51 CVA Cyclic Voltammetry Advanced 52 DNPV Differential Normal Pulse Voltammetry 53 DPA Differential Pulse Amperometry 54 CA Chronoamperometry 55 OCV Open Circuit Voltage 56 CP Chronoptentiometry 57 CV Cyclic Voltammetry 58 PDYN Potentiodynamic 59 GDYN Galvanodynamic 60 PEIS Potentio Electrochemical Impedance Spectroscopy 61 GEIS Galvano Electrochemical Impedance Spectroscopy 62 SPEIS Staircase Potentio Electrochemical Impedance Spectroscopy 63 SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy 64 PEIS Potentio Electrochemical Impedance Spectroscopy 65 GEIS Galvano Electrochemical Impedance Spectroscopy 66 SGEIS Galvano Electrochemical Impedance Spectroscopy 67 SPEIS Potentio Electrochemical Impedance Spectroscopy 68 SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy 69 SGEIS Galvano Electrochemical Impedance Spectroscopy on Stack 69 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 60 PDYN Potentiodynamic on Stack 61 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 62 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 63 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 64 POYN Potentiodynamic on Stack 65 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 66 PDYN Potentiodynamic on Stack 67 GDYN Galvanodynamic on Stack 68 LOOP Loop 69 CV ADV Cyclic Voltammetry Advanced 70 DPV Differential Pulse Voltammetry 71 SWY Square Wave Voltammetry 72 NPV Normal Pulse Voltammetry 73 RNPV Reverse Normal Pulse Voltammetry 74 DNPV Differential Pulse Amperometry 75 DPA Differential Pulse Amperometry 76 EVT Ecorr vs. Time 77 LP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization			·
46 SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy 47 SWV Square Wave Voltammetry 48 EVT Ecorr vs. Time 49 CM Corrosimetry (Rp vs. Time) 50 ZIR IR compensation (PEIS) 51 CVA Cyclic Voltammetry Advanced 52 DNPV Differential Normal Pulse Voltammetry 53 DPA Differential Pulse Amperometry 54 CA Chronoamperometry 55 OCV Open Circuit Voltage 56 CP Chronopotentiometry 57 CV Cyclic Voltammetry 58 PDYN Potentiodynamic 59 GDYN Galvanodynamic 60 PEIS Potentio Electrochemical Impedance Spectroscopy 61 GEIS Galvano Electrochemical Impedance Spectroscopy 62 SPEIS Staircase Galvano Electrochemical Impedance Spectroscopy 63 SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy 64 PEIS Potentio Electrochemical Impedance Spectroscopy 65 GEIS Galvano Electrochemical Impedance Spectroscopy 66 PDYN Potentiodynamic on Stack 67 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 68 DOPN Potentiodynamic on Stack 69 DYN Potentiodynamic on Stack 60 PDYN Potentiodynamic on Stack 61 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 62 SEIS Galvano Electrochemical Impedance Spectroscopy on Stack 63 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 64 PDYN Potentiodynamic on Stack 65 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 66 PDYN Potentiodynamic on Stack 67 GDYN Galvanodynamic on Stack 68 LOOP Loop 69 CV ADV Cyclic Voltammetry Advanced 70 DPV Differential Pulse Voltammetry 71 SWV Square Wave Voltammetry 72 NPV Normal Pulse Voltammetry 73 RNPV Reverse Normal Pulse Voltammetry 74 DNPV Differential Pulse Amperometry 75 DPA Differential Pulse Amperometry 76 EVT Ecorr vs. Time 77 LP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization			
47 SWV Square Wave Voltammetry 48 EVT Ecorr vs. Time 49 CM Corrosimetry (Rp vs. Time) 50 ZIR IR compensation (PEIS) 51 CVA Cyclic Voltammetry Advanced 52 DNPV Differential Normal Pulse Voltammetry 53 DPA Differential Pulse Amperometry 54 CA Chronoamperometry 55 OCV Open Circuit Voltage 56 CP Chronopotentiometry 57 CV Cyclic Voltammetry 58 PDYN Potentiodynamic 59 GDYN Galvanodynamic 60 PEIS Potentio Electrochemical Impedance Spectroscopy 61 GEIS Galvano Electrochemical Impedance Spectroscopy 62 SPEIS Staircase Potentio Electrochemical Impedance Spectroscopy 63 SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy 64 PEIS Potentio Electrochemical Impedance Spectroscopy 65 GEIS Galvano Electrochemical Impedance Spectroscopy 66 PDYN Potentiodynamic on Stack 67 GDYN Galvanodynamic on Stack 68 LOOP Loop 69 CV ADV Cyclic Voltammetry Advanced 70 DPV Differential Pulse Voltammetry 71 SWV Square Wave Voltammetry 72 NPV Normal Pulse Voltammetry 73 RNPV Reverse Normal Pulse Voltammetry 74 DNPV Differential Normal Pulse Voltammetry 75 DPA Differential Normal Pulse Voltammetry 76 EVT Ecorr vs. Time 77 LP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization			1 1 1 7 7
48 EVT Ecorr vs. Time 49 CM Corrosimetry (Rp vs. Time) 50 ZIR IR compensation (PEIS) 51 CVA Cyclic Voltammetry Advanced 52 DNPV Differential Normal Pulse Voltammetry 53 DPA Differential Pulse Amperometry 54 CA Chronoamperometry 55 OCV Open Circuit Voltage 56 CP Chronopotentiometry 57 CV Cyclic Voltammetry 58 PDYN Potentiodynamic 59 GDYN Galvanodynamic 60 PEIS Potentio Electrochemical Impedance Spectroscopy 61 GEIS Galvano Electrochemical Impedance Spectroscopy 62 SPEIS Staircase Potentio Electrochemical Impedance Spectroscopy 63 SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy 64 PEIS Potentio Electrochemical Impedance Spectroscopy 65 GEIS Galvano Electrochemical Impedance Spectroscopy 66 PDYN Potentiodynamic on Stack 67 GEIS Galvano Electrochemical Impedance Spectroscopy 68 SEIS Staircase Ostentio Electrochemical Impedance Spectroscopy 69 CV ADV Cyclic Voltammetry Advanced 60 PDYN Potentiodynamic on Stack 61 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 62 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 63 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 64 PDYN Potentiodynamic on Stack 65 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 66 PDYN Potentiodynamic on Stack 67 GDYN Galvanodynamic on Stack 68 LOOP Loop 69 CV ADV Cyclic Voltammetry Advanced 70 DPV Differential Pulse Voltammetry 71 SWV Square Wave Voltammetry 72 NPV Normal Pulse Voltammetry 73 RNPV Reverse Normal Pulse Voltammetry 74 DNPV Differential Pulse Amperometry 75 DPA Differential Pulse Amperometry 76 EVT Ecorr vs. Time 77 LP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiolynamic Polarization	47		
50 ZIR IR compensation (PEIS) 51 CVA Cyclic Voltammetry Advanced 52 DNPV Differential Normal Pulse Voltammetry 53 DPA Differential Pulse Amperometry 54 CA Chronopamperometry 55 OCV Open Circuit Voltage 56 CP Chronopotentiometry 57 CV Cyclic Voltammetry 58 PDYN Potentiodynamic 59 GDYN Galvanodynamic 60 PEIS Potentio Electrochemical Impedance Spectroscopy 61 GEIS Galvano Electrochemical Impedance Spectroscopy 62 SPEIS Staircase Potentio Electrochemical Impedance Spectroscopy 63 SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy 64 PEIS Potentio Electrochemical Impedance Spectroscopy 65 GEIS Galvano Electrochemical Impedance Spectroscopy 66 PDYN Potentio Electrochemical Impedance Spectroscopy 67 OPYN Potentiodynamic on Stack 68 DOYN Galvanodynamic on Stack 69 CV ADV Cyclic Voltammetry Advanced 70 DPV Differential Pulse Voltammetry 71 SWV Square Wave Voltammetry 72 NPV Normal Pulse Voltammetry 73 RNPV Reverse Normal Pulse Voltammetry 74 DNPV Differential Normal Pulse Voltammetry 75 DPA Differential Normal Pulse Voltammetry 76 DPA Differential Pulse Amperometry 77 LP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization	48	EVT	·
50 ZIR IR compensation (PEIS) 51 CVA Cyclic Voltammetry Advanced 52 DNPV Differential Normal Pulse Voltammetry 53 DPA Differential Pulse Amperometry 54 CA Chronopamperometry 55 OCV Open Circuit Voltage 56 CP Chronopotentiometry 57 CV Cyclic Voltammetry 58 PDYN Potentiodynamic 59 GDYN Galvanodynamic 60 PEIS Potentio Electrochemical Impedance Spectroscopy 61 GEIS Galvano Electrochemical Impedance Spectroscopy 62 SPEIS Staircase Potentio Electrochemical Impedance Spectroscopy 63 SGEIS Staircase Oalvano Electrochemical Impedance Spectroscopy 64 PEIS Potentio Electrochemical Impedance Spectroscopy 65 GEIS Galvano Electrochemical Impedance Spectroscopy 66 PDYN Potentio Electrochemical Impedance Spectroscopy 67 OPYN Potentiodynamic on Stack 68 DOYN Galvanodynamic on Stack 69 CV ADV Cyclic Voltammetry Advanced 70 DPV Differential Pulse Voltammetry 71 SWV Square Wave Voltammetry 72 NPV Normal Pulse Voltammetry 73 RNPV Reverse Normal Pulse Voltammetry 74 DNPV Differential Normal Pulse Voltammetry 75 DPA Differential Pulse Amperometry 76 CPP Cyclic Potentiodynamic Polarization	49	СМ	Corrosimetry (Rp vs. Time)
51 CVA Cyclic Voltammetry Advanced 52 DNPV Differential Normal Pulse Voltammetry 53 DPA Differential Pulse Amperometry 54 CA Chronoamperometry 55 OCV Open Circuit Voltage 56 CP Chronoptentiometry 57 CV Cyclic Voltammetry 58 PDYN Potentiodynamic 59 GDYN Galvanodynamic 60 PEIS Potentio Electrochemical Impedance Spectroscopy 61 GEIS Galvano Electrochemical Impedance Spectroscopy 62 SPEIS Staircase Potentio Electrochemical Impedance Spectroscopy 63 SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy 64 PEIS Potentio Electrochemical Impedance Spectroscopy 65 GEIS Galvano Electrochemical Impedance Spectroscopy 66 PDYN Potentiodynamic on Stack 67 GDYN Galvanodynamic on Stack 68 LOOP Loop 69 CV ADV Cyclic Voltammetry Advanced 70 DPV Differential Pulse Voltammetry 71 SWV Square Wave Voltammetry 72 NPV Normal Pulse Voltammetry 73 RNPV Reverse Normal Pulse Voltammetry 74 DNPV Differential Normal Pulse Voltammetry 75 DPA Differential Pulse Amperometry 76 EVT Ecorr vs. Time 77 LP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization	50	ZIR	,
DNPV Differential Normal Pulse Voltammetry DIFFERENTIAL PORT OF THE PROPERTY	51	CVA	·
DPA Differential Pulse Amperometry CA Chronoamperometry COV Open Circuit Voltage CP Chronopotentiometry CV Cyclic Voltammetry PDYN Potentiodynamic GDYN Galvanodynamic GEIS Galvano Electrochemical Impedance Spectroscopy ESSELS Staircase Potentio Electrochemical Impedance Spectroscopy SEIS Potentio Electrochemical Impedance Spectroscopy SEIS Staircase Galvano Electrochemical Impedance Spectroscopy APEIS Potentio Electrochemical Impedance Spectroscopy on Stack APEIS Galvano Electrochemical Impedance Spectroscopy on Stack APEIS Galvano Electrochemical Impedance Spectroscopy on Stack APEIS Galvanodynamic Ostack APEIS Galvanodynamic Ostack APEIS Galvanodynamic Ostack APEIS Galvanodynamic Ostack APEIS Potentiodynametry APEIS GALVANO Cyclic Voltammetry AP	52	DNPV	·
CA Chronoamperometry OCV Open Circuit Voltage CP Chronopotentiometry CV Cyclic Voltammetry BPDYN Potentiodynamic GBIS Galvano Electrochemical Impedance Spectroscopy GS SEIS Staircase Potentio Electrochemical Impedance Spectroscopy SGEIS Galvano Electrochemical Impedance Spectroscopy SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy GS SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy CS SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy CS SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy CS SGEIS Galvano Electrochemical Impedance Spectroscopy on Stack CS GEIS Galvano Electrochemical Impedance Spectroscopy CS ADV Overnoscopy CS ADV Overnoscopy CS ADV Overnoscopy CS GEIS Galvano Electrochemical Impedance Spectroscopy CS GE	53	DPA	·
55 OCV Open Circuit Voltage 56 CP Chronopotentiometry 57 CV Cyclic Voltammetry 58 PDYN Potentiodynamic 59 GDYN Galvanodynamic 60 PEIS Potentio Electrochemical Impedance Spectroscopy 61 GEIS Galvano Electrochemical Impedance Spectroscopy 62 SPEIS Staircase Potentio Electrochemical Impedance Spectroscopy 63 SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy 64 PEIS Potentio Electrochemical Impedance Spectroscopy 65 GEIS Galvano Electrochemical Impedance Spectroscopy 66 PEIS Potentio Electrochemical Impedance Spectroscopy on Stack 67 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 68 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 69 COYN Potentiodynamic on Stack 60 PDYN Potentiodynamic on Stack 61 GEIS Galvanodynamic on Stack 62 GEIS Galvanodynamic on Stack 63 GEIS Galvanodynamic on Stack 64 PDYN Potentiodynamic on Stack 65 GEIS Galvanodynamic on Stack 66 PDYN Galvanodynamic on Stack 67 GDYN Galvanodynamic on Stack 68 LOOP Loop 69 CV ADV Cyclic Voltammetry Advanced 70 DPV Differential Pulse Voltammetry 71 SWV Square Wave Voltammetry 72 NPV Normal Pulse Voltammetry 73 RNPV Reverse Normal Pulse Voltammetry 74 DNPV Differential Normal Pulse Voltammetry 75 DPA Differential Pulse Amperometry 76 EVT Ecorr vs. Time 77 LP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization	54	CA	·
56 CP Chronopotentiometry 57 CV Cyclic Voltammetry 58 PDYN Potentiodynamic 59 GDYN Galvanodynamic 60 PEIS Potentio Electrochemical Impedance Spectroscopy 61 GEIS Galvano Electrochemical Impedance Spectroscopy 62 SPEIS Staircase Potentio Electrochemical Impedance Spectroscopy 63 SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy 64 PEIS Potentio Electrochemical Impedance Spectroscopy 65 GEIS Galvano Electrochemical Impedance Spectroscopy 66 PDYN Potentiodynamic on Stack 67 GDYN Galvanodynamic on Stack 68 LOOP Loop 69 CV ADV Cyclic Voltammetry Advanced 70 DPV Differential Pulse Voltammetry 71 SWV Square Wave Voltammetry 72 NPV Normal Pulse Voltammetry 73 RNPV Reverse Normal Pulse Voltammetry 74 DNPV Differential Normal Pulse Voltammetry 75 DPA Differential Pulse Amperometry 76 EVT Ecorr vs. Time 77 LP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization	55	OCV	
57 CV Cyclic Voltammetry 58 PDYN Potentiodynamic 59 GDYN Galvanodynamic 60 PEIS Potentio Electrochemical Impedance Spectroscopy 61 GEIS Galvano Electrochemical Impedance Spectroscopy 62 SPEIS Staircase Potentio Electrochemical Impedance Spectroscopy 63 SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy 64 PEIS Potentio Electrochemical Impedance Spectroscopy 65 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 66 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 67 GDYN Potentiodynamic on Stack 68 LOOP Loop 69 CV ADV Cyclic Voltammetry Advanced 70 DPV Differential Pulse Voltammetry 71 SWV Square Wave Voltammetry 72 NPV Normal Pulse Voltammetry 73 RNPV Reverse Normal Pulse Voltammetry 74 DNPV Differential Normal Pulse Voltammetry 75 DPA Differential Pulse Amperometry 76 EVT Ecorr vs. Time 77 LP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization	56	СР	
58 PDYN Potentiodynamic 59 GDYN Galvanodynamic 60 PEIS Potentio Electrochemical Impedance Spectroscopy 61 GEIS Galvano Electrochemical Impedance Spectroscopy 62 SPEIS Staircase Potentio Electrochemical Impedance Spectroscopy 63 SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy 64 PEIS Potentio Electrochemical Impedance Spectroscopy 65 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 66 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 67 GDYN Potentiodynamic on Stack 68 LOOP Loop 69 CV ADV Cyclic Voltammetry Advanced 70 DPV Differential Pulse Voltammetry 71 SWV Square Wave Voltammetry 72 NPV Normal Pulse Voltammetry 73 RNPV Reverse Normal Pulse Voltammetry 74 DNPV Differential Normal Pulse Voltammetry 75 DPA Differential Pulse Amperometry 76 EVT Ecorr vs. Time 77 LP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization	57	CV	
PEIS Potentio Electrochemical Impedance Spectroscopy GEIS Galvano Electrochemical Impedance Spectroscopy GEIS Staircase Potentio Electrochemical Impedance Spectroscopy GEIS Staircase Galvano Electrochemical Impedance Spectroscopy GEIS Staircase Galvano Electrochemical Impedance Spectroscopy GEIS Potentio Electrochemical Impedance Spectroscopy on Stack GEIS Galvano Electrochemical Impedance Spectroscopy on Stack GEIS GEIS Galvano Electrochemical Impedance Spectroscopy on Stack GEIS GEIS Galvano Electrochemical Impedance Spectroscopy on Stack GEIS Galvano Electrochemical Impeda	58	PDYN	·
PEIS Potentio Electrochemical Impedance Spectroscopy GEIS Galvano Electrochemical Impedance Spectroscopy GEIS Staircase Potentio Electrochemical Impedance Spectroscopy GEIS Staircase Galvano Electrochemical Impedance Spectroscopy GEIS Staircase Galvano Electrochemical Impedance Spectroscopy GEIS Potentio Electrochemical Impedance Spectroscopy on Stack GEIS Galvano Electrochemical Impedance Spectroscopy on Stack GEIS GEIS Galvano Electrochemical Impedance Spectroscopy on Stack GEIS GEIS Galvano Electrochemical Impedance Spectroscopy on Stack GEIS Galvano Electrochemical Impeda	59	GDYN	Galvanodynamic
SPEIS Staircase Potentio Electrochemical Impedance Spectroscopy SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy EEIS Potentio Electrochemical Impedance Spectroscopy on Stack GEIS Galvano Electrochemical Impedance Spectroscopy on Stack EEIS Galvano Electrochemical Impedance Spectroscopy on Stack EIS GALVANO Electroscopy on Stack EVY ADV Cyclic Voltammetry Advanced EVY Everse Voltammetry EVY Everse Voltammetry EVY Everse Normal Pulse Voltammetry EVY Ecorr vs. Time EVY Ecorr vs. Time EVY Linear Polarization EVP Cyclic Potentiodynamic Polarization	60	PEIS	·
SGEIS Staircase Galvano Electrochemical Impedance Spectroscopy 64 PEIS Potentio Electrochemical Impedance Spectroscopy on Stack 65 GEIS Galvano Electrochemical Impedance Spectroscopy on Stack 66 PDYN Potentiodynamic on Stack 67 GDYN Galvanodynamic on Stack 68 LOOP Loop 69 CV ADV Cyclic Voltammetry Advanced 70 DPV Differential Pulse Voltammetry 71 SWV Square Wave Voltammetry 72 NPV Normal Pulse Voltammetry 73 RNPV Reverse Normal Pulse Voltammetry 74 DNPV Differential Normal Pulse Voltammetry 75 DPA Differential Pulse Amperometry 76 EVT Ecorr vs. Time 77 LP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization	61	GEIS	Galvano Electrochemical Impedance Spectroscopy
PEIS Potentio Electrochemical Impedance Spectroscopy on Stack GEIS Galvano Electrochemical Impedance Spectroscopy on Stack PDYN Potentiodynamic on Stack GEIS Galvanodynamic on Stack GEIS GAIVANOGE GEIS GAIVA	62	SPEIS	Staircase Potentio Electrochemical Impedance Spectroscopy
GEIS Galvano Electrochemical Impedance Spectroscopy on Stack PDYN Potentiodynamic on Stack GDYN Galvanodynamic on Stack EOOP Loop CV ADV Cyclic Voltammetry Advanced DPV Differential Pulse Voltammetry SWV Square Wave Voltammetry NPV Normal Pulse Voltammetry RNPV Reverse Normal Pulse Voltammetry DNPV Differential Normal Pulse Voltammetry EVIT DNPV Differential Normal Pulse Voltammetry LP Linear Polarization GC Generalized Corrosion CPP Cyclic Potentiodynamic Polarization	63	SGEIS	Staircase Galvano Electrochemical Impedance Spectroscopy
66 PDYN Potentiodynamic on Stack 67 GDYN Galvanodynamic on Stack 68 LOOP Loop 69 CV ADV Cyclic Voltammetry Advanced 70 DPV Differential Pulse Voltammetry 71 SWV Square Wave Voltammetry 72 NPV Normal Pulse Voltammetry 73 RNPV Reverse Normal Pulse Voltammetry 74 DNPV Differential Normal Pulse Voltammetry 75 DPA Differential Pulse Amperometry 76 EVT Ecorr vs. Time 77 LP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization	64	PEIS	Potentio Electrochemical Impedance Spectroscopy on Stack
GDYN Galvanodynamic on Stack 68 LOOP Loop 69 CV ADV Cyclic Voltammetry Advanced 70 DPV Differential Pulse Voltammetry 71 SWV Square Wave Voltammetry 72 NPV Normal Pulse Voltammetry 73 RNPV Reverse Normal Pulse Voltammetry 74 DNPV Differential Normal Pulse Voltammetry 75 DPA Differential Pulse Amperometry 76 EVT Ecorr vs. Time 77 LP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization	65	GEIS	Galvano Electrochemical Impedance Spectroscopy on Stack
68 LOOP Loop 69 CV ADV Cyclic Voltammetry Advanced 70 DPV Differential Pulse Voltammetry 71 SWV Square Wave Voltammetry 72 NPV Normal Pulse Voltammetry 73 RNPV Reverse Normal Pulse Voltammetry 74 DNPV Differential Normal Pulse Voltammetry 75 DPA Differential Pulse Amperometry 76 EVT Ecorr vs. Time 77 LP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization	66	PDYN	Potentiodynamic on Stack
CV ADV Cyclic Voltammetry Advanced 70 DPV Differential Pulse Voltammetry 71 SWV Square Wave Voltammetry 72 NPV Normal Pulse Voltammetry 73 RNPV Reverse Normal Pulse Voltammetry 74 DNPV Differential Normal Pulse Voltammetry 75 DPA Differential Pulse Amperometry 76 EVT Ecorr vs. Time 77 LP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization	67	GDYN	Galvanodynamic on Stack
70 DPV Differential Pulse Voltammetry 71 SWV Square Wave Voltammetry 72 NPV Normal Pulse Voltammetry 73 RNPV Reverse Normal Pulse Voltammetry 74 DNPV Differential Normal Pulse Voltammetry 75 DPA Differential Pulse Amperometry 76 EVT Ecorr vs. Time 77 LP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization	68	LOOP	Loop
71 SWV Square Wave Voltammetry 72 NPV Normal Pulse Voltammetry 73 RNPV Reverse Normal Pulse Voltammetry 74 DNPV Differential Normal Pulse Voltammetry 75 DPA Differential Pulse Amperometry 76 EVT Ecorr vs. Time 77 LP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization	69	CV ADV	Cyclic Voltammetry Advanced
72 NPV Normal Pulse Voltammetry 73 RNPV Reverse Normal Pulse Voltammetry 74 DNPV Differential Normal Pulse Voltammetry 75 DPA Differential Pulse Amperometry 76 EVT Ecorr vs. Time 77 LP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization	70	DPV	Differential Pulse Voltammetry
73 RNPV Reverse Normal Pulse Voltammetry 74 DNPV Differential Normal Pulse Voltammetry 75 DPA Differential Pulse Amperometry 76 EVT Ecorr vs. Time 77 LP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization	71	SWV	Square Wave Voltammetry
74 DNPV Differential Normal Pulse Voltammetry 75 DPA Differential Pulse Amperometry 76 EVT Ecorr vs. Time 77 LP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization	72	NPV	Normal Pulse Voltammetry
75 DPA Differential Pulse Amperometry 76 EVT Ecorr vs. Time 77 LP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization	73	RNPV	Reverse Normal Pulse Voltammetry
76 EVT Ecorr vs. Time 77 LP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization	74	DNPV	Differential Normal Pulse Voltammetry
77 LP Linear Polarization 78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization	75	DPA	Differential Pulse Amperometry
78 GC Generalized Corrosion 79 CPP Cyclic Potentiodynamic Polarization	76	EVT	Ecorr vs. Time
79 CPP Cyclic Potentiodynamic Polarization	77	LP	Linear Polarization
	78	GC	Generalized Corrosion
80 PDP Potentiodynamic Pitting	79	CPP	Cyclic Potentiodynamic Polarization
	80	PDP	Potentiodynamic Pitting

81 I	PSP	Potentiostatic Pitting
	ZRA	Zero Resistance Ammeter
	MIR	Manual IR
	PZIR	IR Determination with Potentiostatic Impedance
	GZIR	IR Determination with Galvanostatic Impedance
	MIR	Manual IR compensation
	PEISW	Potentio Electrochemical Impedance Spectroscopy Wait
	TI	Trigger In
	TO	Trigger Out
	TOS	Trigger Set
	LASV	Large Amplitude Sinusoidal Voltammetry
	ACV	AC Voltammetry
	VASP	Variable Amplitude Sinusoidal micro Polarization
	MUX	Multiplexer
	CASP	Constant Amplitude Sinusoidal micro Polarization
96 (CP L	Chronopotentiometry with limits
97 (GDYN L	Galvanodynamic with limits
98 (CA L	Chronoamperometry with limits
99 I	PDYN L	Potentiodynamic with limits
100 /	ABS	Absorbance
101 I	FLUO	Fluorescence
102 (GPI	Galvano Profile Importation
103 I	PPI	Potentio Profile Importation
104 I	RPI	Resistance Profile Importation
105 I	PWPI	Power Profile Importation
106 I	LASV	Large Amplitude Sinusoidal Voltammetry
107 (CI	Current Interrupt
108 I	LSV	Linear Sweep Voltammetry
109 l	MUX LP	Multiplexer Loop
110 I	IVC	I-V Characterization
111 -	TC	Temperature Control
112 I	RDEC	Rotating Disk Electrode Control
113 I	DABS	Dual Absorbance
114 /	ABS F	Absorbance/Fluorescence
115 I	Pause	Pause
116 I	EDC	External Device Control
117 (CstV	Constant Voltage
118 (CstC	Constant Current
119 (GCPL6	Galvanostatic Cycling with Potential Limitation 6
120 (CV_CA	Bipotentiostat CV & CA
121 (CP_CA	Bipotentiostat CP & CA
122 (CA_CA	Bipotentiostat CA & CA

123	MP	Modular Pulse
124	CV Lin	Cyclic Voltammetry Linear
125	CASG	Constant Amplitude Sinusoidal Galvanopolarization
126	LASV	Constant Amplitude Sinusoidal Polarization
127	MB	Modulo Bat
128	VASP	Variable Amplitude Sinusoidal Polarization
129	OCV F	Fast Open Circuit Voltage
130	CA F	Fast Chronoamperometry
131	CP F	Fast Chronopotentiometry
132	GCPL7	Galvanostatic Cycling with Potential Limitation 7
133	CV Lin	Cyclic Voltammetry Linear
134	STCC	Special Technique ChronoCoulometry
135	RCA	Ring Chronoamperometry
136	BCD	Battery Capacity Determination
137	CVL	Cyclic Voltammetry Linear
138	EXTAPP	External Application
139	EMAIL	Send E-Mail
140	CS	Current Scan
141	CED	Coulombic Efficiency Determination
142	EVANS	Evans diagram
143	TP	Tafel Plot
144	BECN	Biased Electrochemical Noise
145	Sync	Synchronization
146	RP	Repassivation potential (JIS0592)
147	GalC	Galvanic Coupling (ASTM-G71)

4.2 Relevant current values according to technique

For every techniques:

- OCV, EIS, Technique number, Technique code, sequence number, buffer, time, Ewe, Eoc, I, safety limit, connection
- Status, Ox/Red and IRange : except for CVL technique
- R compensation (if Ohmic drop determination technique before)
- Ece, Power, Aux1 and Aux2 if selected into Cell Characteristics.

Charge (Q-Q0): all except CASP, PEISW, ZIR, SPEIS, SGEIS, PEIS, GEIS, VASP, SPFC, CVL

Ece: ECN, BECN, GalC, GCPL2, GCPL3 and other if record Ece is checked

Cycle: CV, SV, CVA, LASV, ACV, PEIS, GEIS, VASP, SPEIS, SGEIS, CASP

Counter 1: CV, SV, CVA, LASV, ACV, ZVC, ECN, BECN, GALC, SPFC, PR

Counter 2 and 3: PR

Frequency:

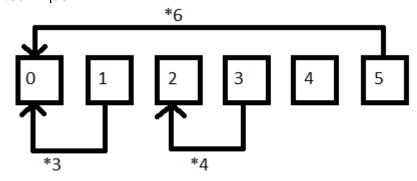
- PEIS, GEIS, VASP, SPEIS, SGEIS, ZIR, PEISW.
- MB and RP if the channel support EIS

|Z|: PEISW

Current point index and total point index: PEIS, GEIS, VASP, SPEIS, SGEIS

4.3 Get current sequence and iteration number

StatusVariant[7] and StatusVariant[8] return information about the smallest current sequence loop. StatusVariant[7] return the iteration number corresponding to the loop of the sequence StatusVariant[8]. For example, if we have a technique with 6 sequences (0 to 5) and sequence 1,3 and 5 are Loop type technique.



So, in this example, sequence 1 is a loop which go back to sequence 0 for 3 times, sequence 3 go back to sequence 2 for 4 times and sequence 5 go back to sequence 0 for 6 times.

Thus, the first time we are in the sequence 0, StatusVariant[7]=0 and StatusVariant[8]=0. When we enter in the 3 loops of sequence 1 we will have StatusVariant[7]=1,StatusVariant[8]=1 and StatusVariant[7]=2, StatusVariant[8]=1 and StatusVariant[7]=3,StatusVariant[8]=1.

The same thing will be done between sequence 2 and 3. First we'll have StatusVariant[7]=0, StatusVariant[8]=0 and when we enter in the 4 loops of sequence 3 we'll have StatusVariant[7]=1,StatusVariant[8]=3 and StatusVariant[7]=2, StatusVariant[8]=3 and StatusVariant[7]=4,StatusVariant[8]=3.

Once we arrive in the sequence 5, we will go back in the sequence 0 for 6 times. So, when we go back in the sequence 0 we will have first StatusVariant[7]=1,StatusVariant[8]=5, and after, when we return in the loop of sequence 1, we will have again StatusVariant[7]=1, StatusVariant[8]=1 and StatusVariant[7]=2, StatusVariant[8]=1 ... etc.

To summarize, these two fields contain the iteration number and the corresponding sequence of the smallest loop in progress.

Sequence Num-	Current loop iter-	Current se-		
ber	ation number	quence with loop		
(StatusVariant[6])	(StatusVariant[7])	number		
		(StatusVariant[8])		
0	0	0	sequence 0	
0	1	1	first loop	
0	2	1	Iterations	
0	3	1	(sequence 1)	
2	0	0		
2	1	3	Ond In an	
2	2	3	2 nd loop	
2	3	3	Iterations	
2	4	3	(sequence 3)	
4	0	0	sequence 4	
0	1	5		
0	1	1	first loop	3 rd loop
0	2	1	Iterations	1 st Iteration
0	3	1	(sequence 1)	(sequence 5)
2	1	5		
2	1	3	2 nd loop	
2	2	3	Iterations	
2	3	3	(sequence 3)	
2	4	3		
4	1	5		
0	2	5		

4.4 Variables codes

Code	Description
1	mode
3	ox/red
3	error
4	time/s
5	control/V/mA
6	Ewe/V
7	dq/mA.h
8	I/mA
9	Ece/V
10	Aux/V
11	<i>/mA</i>
12	log(<i>/A)</i>
13	(Q-Qo)/mA.h
14	X
16	Analog IN 1/V
17	Analog IN 2/V
18	Analog IN 3/V
19	control/V
20	control/mA
21	control changes
22	log(I/A)
23	dQ/mA.h
24	cycle number

DQ/mA.h
Rapp/Ohm
Ewe-Ece/V
control/°C
T/°C
rotation rate/rpm
Ns changes
freq/Hz
Ewe /V
I /A
Phase(Z)/deg
Z /Ohm
Re(Z)/Ohm
-Im(Z)/Ohm
I Range
Q charge/mA.h
Q discharge/mA.h
Q charge (mA.h/g)
Q discharge (mA.h/g)
Q anodic/C
Q cathodic/C
Q anodic (C/cm²)
Q cathodic (C/cm²)
Tech Num

## End buf		
51 Ian min/mA 52 Ian max/mA 53 Ica min/mA 54 Ica max/mA 55 Ean end/V 56 Eca end/V 57 Ece min/V 58 Ece max/V 59 Analog IN 1/V min 60 Analog IN 1/V max 61 Analog IN 2/V min 62 Analog IN 3/V min 63 Analog IN 3/V max 65 counter inc. 66 I forward/mA 67 I reverse/mA 68 I delta/μA 69 R/Ohm 70 P/W 71 control/°C 72 T/°C 73 rotation rate/rpm 74 Energy /W.h 75 Analog OUT/V 76 < >->/mA 77 <ewe>/V 78 Cs-2/μF-2 79 E step/V 80 Rp/Ohm 81 Ecorr/V <</ewe>		
52		
S3		
54 Ica max/mA 55 Ean end/V 56 Eca end/V 57 Ece min/V 58 Ece max/V 59 Analog IN 1/V min 60 Analog IN 2/V min 61 Analog IN 2/V max 63 Analog IN 3/V min 64 Analog IN 3/V max 65 counter inc. 66 I forward/mA 67 I reverse/mA 68 I delta/μA 69 R/Ohm 70 P/W 71 control/°C 72 T/°C 73 rotation rate/rpm 74 Energy /W.h 75 Analog OUT/V 76 < >>/mA 77 <ewe>/V 78 Cs-2/μF-2 79 E step/V 80 Rp/Ohm 81 Ecorr/V 82 Icorr/mA 83 I/A/cm2 84 Q/C/cm2 85<td>52</td><td></td></ewe>	52	
55 Ean end/V 56 Eca end/V 57 Ece min/V 58 Ece max/V 59 Analog IN 1/V min 60 Analog IN 2/V min 62 Analog IN 3/V min 64 Analog IN 3/V min 64 Analog IN 3/V max 65 Counter inc. 66 I forward/mA 67 I reverse/mA 68 I delta/μA 69 R/Ohm 70 P/W 71 Control/°C 72 T/°C 73 rotation rate/rpm 74 Energy /W.h 75 Analog OUT/V 76 < >/NmA 77 <ewe>/V 78 Cs-2/μF-2 79 E step/V 80 Rp/Ohm 81 Ecorr/V 82 Icorr/mA 83 I/A/cm2 84 Q/C/cm2 85 Aux 86 Unk1 87 Unk2 88 Unk3 89 Unk4 90 Unk5 91 Unk6 92 Unk7 93 Unk8 94 Unk9 95 Unk10 </ewe>		
56 Eca end/V 57 Ece min/V 58 Ece max/V 59 Analog IN 1/V min 60 Analog IN 2/V min 61 Analog IN 2/V max 62 Analog IN 3/V min 64 Analog IN 3/V max 65 counter inc. 66 I forward/mA 67 I reverse/mA 68 I delta/μA 69 R/Ohm 70 P/W 71 control/°C 72 T/°C 73 rotation rate/rpm 74 Energy /W.h 75 Analog OUT/V 76 < >- 77 <		
57 Ece min/V 58 Ece max/V 59 Analog IN 1/V min 60 Analog IN 2/V min 61 Analog IN 2/V max 62 Analog IN 3/V min 64 Analog IN 3/V max 65 counter inc. 66 I forward/mA 67 I reverse/mA 68 I delta/μA 69 R/Ohm 70 P/W 71 control/°C 72 T/°C 73 rotation rate/rpm 74 Energy /W.h 75 Analog OUT/V 76 < >		
58 Ece max/V 59 Analog IN 1/V min 60 Analog IN 1/V max 61 Analog IN 2/V min 62 Analog IN 3/V min 63 Analog IN 3/V max 63 Analog IN 3/V max 65 counter inc. 66 I forward/mA 67 I reverse/mA 68 I delta/μA 69 R/Ohm 70 P/W 71 control/°C 72 T/°C 73 rotation rate/rpm 74 Energy /W.h 75 Analog OUT/V 76 < >		
59 Analog IN 1/V min 60 Analog IN 2/V min 61 Analog IN 2/V max 62 Analog IN 3/V min 63 Analog IN 3/V max 64 Analog IN 3/V max 65 counter inc. 66 I forward/mA 67 I reverse/mA 68 I delta/μA 69 R/Ohm 70 P/W 71 control/°C 72 T/°C 73 rotation rate/rpm 74 Energy /W.h 75 Analog OUT/V 76 <i>>/mA 77 <ewe>/V 78 Cs-2/μF-2 79 E step/V 80 Rp/Ohm 81 Ecorr/V 82 Icorr/mA 83 I/A/cm2 84 Q/C/cm2 85 Aux 86 Unk1 87 Unk2 88 Unk3 89</ewe></i>		
60 Analog IN 1/V max 61 Analog IN 2/V min 62 Analog IN 3/V min 63 Analog IN 3/V min 64 Analog IN 3/V max 65 counter inc. 66 I forward/mA 67 I reverse/mA 68 I delta/μA 69 R/Ohm 70 P/W 71 control/°C 72 T/°C 73 rotation rate/rpm 74 Energy /W.h 75 Analog OUT/V 76 <i>/mA 77 <ewe>/V 78 Cs-2/μF-2 79 E step/V 80 Rp/Ohm 81 Ecorr/V 82 Icorr/mA 83 I/A/cm2 84 Q/C/cm2 85 Aux 86 Unk1 87 Unk2 88 Unk3 89 Unk4 90 Unk5 91 Unk6 92 Unk7 93 Unk8 94 Unk9 95 Unk10</ewe></i>		
61 Analog IN 2/V min 62 Analog IN 3/V max 63 Analog IN 3/V min 64 Analog IN 3/V max 65 counter inc. 66 I forward/mA 67 I reverse/mA 68 I delta/μA 69 R/Ohm 70 P/W 71 control/°C 72 T/°C 73 rotation rate/rpm 74 Energy /W.h 75 Analog OUT/V 76 <i>/mA 77 <ewe>/V 78 Cs-2/μF-2 79 E step/V 80 Rp/Ohm 81 Ecorr/V 82 Icorr/mA 83 I/A/cm2 84 Q/C/cm2 85 Aux 86 Unk1 87 Unk2 88 Unk3 89 Unk4 90 Unk5 91 Unk6 92 Unk7 93 Unk8 94 Unk9 95 Unk10</ewe></i>		
62 Analog IN 2/V max 63 Analog IN 3/V min 64 Analog IN 3/V max 65 counter inc. 66 I forward/mA 67 I reverse/mA 68 I delta/μA 69 R/Ohm 70 P/W 71 control/°C 72 T/°C 73 rotation rate/rpm 74 Energy /W.h 75 Analog OUT/V 76 <i>/mA 77 <ewe>/V 78 Cs-2/μF-2 79 E step/V 80 Rp/Ohm 81 Ecorr/V 82 Icorr/mA 83 I/A/cm2 84 Q/C/cm2 85 Aux 86 Unk1 87 Unk2 88 Unk3 89 Unk4 90 Unk5 91 Unk6 92 Unk7 93 Unk8 94 Unk9 95 Unk10</ewe></i>		
63		
64 Analog IN 3/V max 65 counter inc. 66 I forward/mA 67 I reverse/mA 68 I delta/μA 69 R/Ohm 70 P/W 71 control/°C 72 T/°C 73 rotation rate/rpm 74 Energy /W.h 75 Analog OUT/V 76 <i>/mA 77 <ewe>/V 78 Cs-2/μF-2 79 E step/V 80 Rp/Ohm 81 Ecorr/V 82 Icorr/mA 83 I/A/cm2 84 Q/C/cm2 85 Aux 86 Unk1 87 Unk2 88 Unk3 89 Unk4 90 Unk5 91 Unk6 92 Unk7 93 Unk8 94 Unk9 95 Unk10</ewe></i>		
65 counter inc. 66 I forward/mA 67 I reverse/mA 68 I delta/μA 69 R/Ohm 70 P/W 71 control/°C 72 T/°C 73 rotation rate/rpm 74 Energy /W.h 75 Analog OUT/V 76 <i>/mA 77 <ewe>/V 78 Cs-2/μF-2 79 E step/V 80 Rp/Ohm 81 Ecorr/V 82 Icorr/mA 83 I/A/cm2 84 Q/C/cm2 85 Aux 86 Unk1 87 Unk2 88 Unk3 89 Unk4 90 Unk5 91 Unk6 92 Unk7 93 Unk8 94 Unk9 95 Unk10</ewe></i>		
I forward/mA		Analog IN 3/V max
67		
68		
69 R/Ohm 70 P/W 71 control/°C 72 T/°C 73 rotation rate/rpm 74 Energy /W.h 75 Analog OUT/V 76 <1>/mA 77 <ewe>/V 78 Cs-2/μF-2 79 E step/V 80 Rp/Ohm 81 Ecorr/V 82 Icorr/mA 83 I/A/cm2 84 Q/C/cm2 85 Aux 86 Unk1 87 Unk2 88 Unk3 89 Unk4 90 Unk5 91 Unk6 92 Unk7 93 Unk8 94 Unk9 95 Unk10</ewe>		
70 P/W 71 control/°C 72 T/°C 73 rotation rate/rpm 74 Energy /W.h 75 Analog OUT/V 76 <i>/mA 77 <ewe>/V 78 Cs-2/μF-2 79 E step/V 80 Rp/Ohm 81 Ecorr/V 82 Icorr/mA 83 I/A/cm2 84 Q/C/cm2 85 Aux 86 Unk1 87 Unk2 88 Unk3 89 Unk4 90 Unk5 91 Unk6 92 Unk7 93 Unk8 94 Unk9 95 Unk10</ewe></i>		
71 control/°C 72 T/°C 73 rotation rate/rpm 74 Energy /W.h 75 Analog OUT/V 76 <i>/mA 77 <ewe>/V 78 Cs-2/μF-2 79 E step/V 80 Rp/Ohm 81 Ecorr/V 82 corr/mA 83 I/A/cm2 84 Q/C/cm2 85 Aux 86 Unk1 87 Unk2 88 Unk3 89 Unk4 90 Unk5 91 Unk6 92 Unk7 93 Unk8 94 Unk9 95 Unk10</ewe></i>		
72 T/°C 73 rotation rate/rpm 74 Energy /W.h 75 Analog OUT/V 76 <i>/mA 77 <ewe>/V 78 Cs-2/µF-2 79 E step/V 80 Rp/Ohm 81 Ecorr/V 82 Icorr/mA 83 I/A/cm2 84 Q/C/cm2 85 Aux 86 Unk1 87 Unk2 88 Unk3 89 Unk4 90 Unk5 91 Unk6 92 Unk7 93 Unk8 94 Unk9 95 Unk10</ewe></i>		
73	71	
73	72	
75 Analog OUT/V 76 <i>/mA 77 <ewe>/V 78 Cs-2/μF-2 79 E step/V 80 Rp/Ohm 81 Ecorr/V 82 Icorr/mA 83 I/A/cm2 84 Q/C/cm2 85 Aux 86 Unk1 87 Unk2 88 Unk3 89 Unk4 90 Unk5 91 Unk6 92 Unk7 93 Unk8 94 Unk9 95 Unk10</ewe></i>	73	
76		
77		Analog OUT/V
78		
79 E step/V 80 Rp/Ohm 81 Ecorr/V 82 Icorr/mA 83 I/A/cm2 84 Q/C/cm2 85 Aux 86 Unk1 87 Unk2 88 Unk3 89 Unk4 90 Unk5 91 Unk6 92 Unk7 93 Unk8 94 Unk9 95 Unk10		
80 Rp/Ohm 81 Ecorr/V 82 Icorr/mA 83 I/A/cm2 84 Q/C/cm2 85 Aux 86 Unk1 87 Unk2 88 Unk3 89 Unk4 90 Unk5 91 Unk6 92 Unk7 93 Unk8 94 Unk9 95 Unk10		
81 Ecorr/V 82 Icorr/mA 83 I/A/cm2 84 Q/C/cm2 85 Aux 86 Unk1 87 Unk2 88 Unk3 89 Unk4 90 Unk5 91 Unk6 92 Unk7 93 Unk8 94 Unk9 95 Unk10		
82 Icorr/mA 83 I/A/cm2 84 Q/C/cm2 85 Aux 86 Unk1 87 Unk2 88 Unk3 89 Unk4 90 Unk5 91 Unk6 92 Unk7 93 Unk8 94 Unk9 95 Unk10		
83 I/A/cm2 84 Q/C/cm2 85 Aux 86 Unk1 87 Unk2 88 Unk3 89 Unk4 90 Unk5 91 Unk6 92 Unk7 93 Unk8 94 Unk9 95 Unk10		
84 Q/C/cm2 85 Aux 86 Unk1 87 Unk2 88 Unk3 89 Unk4 90 Unk5 91 Unk6 92 Unk7 93 Unk8 94 Unk9 95 Unk10		
85 Aux 86 Unk1 87 Unk2 88 Unk3 89 Unk4 90 Unk5 91 Unk6 92 Unk7 93 Unk8 94 Unk9		
86 Unk1 87 Unk2 88 Unk3 89 Unk4 90 Unk5 91 Unk6 92 Unk7 93 Unk8 94 Unk9 95 Unk10		
87 Unk2 88 Unk3 89 Unk4 90 Unk5 91 Unk6 92 Unk7 93 Unk8 94 Unk9 95 Unk10	85	Aux
88 Unk3 89 Unk4 90 Unk5 91 Unk6 92 Unk7 93 Unk8 94 Unk9 95 Unk10		
89 Unk4 90 Unk5 91 Unk6 92 Unk7 93 Unk8 94 Unk9 95 Unk10		
90 Unk5 91 Unk6 92 Unk7 93 Unk8 94 Unk9 95 Unk10		
91 Unk6 92 Unk7 93 Unk8 94 Unk9 95 Unk10		
92 Unk7 93 Unk8 94 Unk9 95 Unk10		
93 Unk8 94 Unk9 95 Unk10		
94 Unk9 95 Unk10		
95 Unk10		
	-	
96 IECel/V		
	96	Ece /V
97 Ice /A		
98 Phase(Zce)/deg		
99 Zce /Ohm	99	
100 Re(Zce)/Ohm	100	
101 -Im(Zce)/Ohm	101	-Im(Zce)/Ohm
102 Cce-2/μF-2	102	
103 Estack/V		Estack/V
104 Istack/A		
105 E21 /V		E21 /V
106 Phase(Z21)/deg	106	

107 E32 V 108 Phase(Z32)/deg 109 IZ21 /Ohm 110 Re(Z21)/Ohm 111 -Im(Z21)/Ohm 112 C21-2/μF-2 113 Z32 /Ohm 114 Re(Z32)/Ohm 115 -Im(Z32)/Ohm 116 C32-2/μF-2 117 E21/V 118 E32/V 119 Re(Y)/Ohm-1 120 Im(Y)/Ohm-1 121 Y /Ohm-1 122 Phase(Y)/deg 123 Energy charge/W.h 124 Energy discharge/W.h 125 Capacitance charge/μF 126 Capacitance discharge/μF 127 Delta(Phase(Z))/% 128 Delta(Z)/% 129 Delta(Re(Z))/% 130 Delta(-Im(Z))/% 131 Ns 132 dl/dt/mA/s 133 Delta(mass)/g 134 Custom01 135 Custom02 136 Custom03 137 Custom04 138 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom09 143 Custom10 144 Custom11 145 Custom12 146 Custom13 147 Custom14 148 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom19 154 Delta(Phase(Y))/% 155 Delta(Re(Y))/% 156 Delta(Re(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Y))/deg 163 Estack /V 164 Istack /A	107	1500107
109 Z21 /Ohm 110 Re(Z21)/Ohm 111 -Im(Z21)/Ohm 111 -Im(Z21)/Ohm 112 C21-2/μF-2 113 Z32 /Ohm 114 Re(Z32)/Ohm 115 -Im(Z32)/Ohm 115 -Im(Z32)/Ohm 116 C32-2/μF-2 117 E21/V 118 E32/V 119 Re(Y)/Ohm-1 120 Im(Y)/Ohm-1 121 Y /Ohm-1 122 Phase(Y)/deg 123 Energy charge/W.h 124 Energy discharge/W.h 125 Capacitance charge/μF 126 Capacitance discharge/μF 127 Delta(Phase(Z))/% 128 Delta(Z)/% 129 Delta(Re(Z))/% 130 Delta(-Im(Z))/% 131 Ns 132 dl/dt/mA/s 133 Delta(mass)/g 134 Custom01 135 Custom02 136 Custom02 136 Custom03 137 Custom04 138 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom10 144 Custom11 145 Custom12 146 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom19 153 Custom19 154 Delta(Phase(Y))/% 155 Delta(Plase(Y))/% 155 Delta(Plase(Y))/% 156 Delta(Phase(Y))/% 157 Delta(Phase(Y))/% 158 t logh 160 dt/dE/s/V 161 Delta(Phase(Y))/deg 162 Delta(Phase(Y))/deg 163 Estack /V	107	E32 /V
110 Re(Z21)/Ohm 111 -Im(Z21)/Ohm 112 C21-2/μF-2 113 Z32 /Ohm 114 Re(Z32)/Ohm 115 -Im(Z32)/Ohm 116 C32-2/μF-2 117 E21/V 118 E32/V 119 Re(Y)/Ohm-1 120 Im(Y)/Ohm-1 121 Y /Ohm-1 122 Phase(Y)/deg 123 Energy charge/W.h 124 Energy discharge/W.h 125 Capacitance charge/μF 126 Capacitance discharge/μF 127 Delta(Phase(Z))/% 128 Delta(Z)/% 129 Delta(Re(Z))/% 130 Delta(-Im(Z))/% 131 Ns 132 dl/dt/mA/s 133 Delta(mass)/g 134 Custom01 135 Custom02 136 Custom03 137 Custom04 138 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom09 143 Custom11 145 Custom12 146 Custom12 146 Custom13 147 Custom14 148 Custom15 149 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom19 154 Delta(Phase(Y))/% 155 Delta(Y)/% 155 Delta(Y)/% 156 Delta(Phase(Y))/% 157 Delta(Phase(Y))/% 158 t low 159 Lelta(Phase(Z))/deg 160 Delta(Phase(Z))/deg 161 Delta(Phase(Z))/deg 162 Delta(Phase(Z))/deg 163 Estack /V		
111 -Im(Z21)/Ohm 112 C21-2/μF-2 113 Z32 /Ohm 114 Re(Z32)/Ohm 115 -Im(Z32)/Ohm 116 C32-2/μF-2 117 E21/V 118 E32/V 119 Re(Y)/Ohm-1 120 Im(Y)/Ohm-1 121 Y /Ohm-1 122 Phase(Y)/deg 123 Energy charge/W.h 124 Energy discharge/W.h 125 Capacitance charge/μF 126 Capacitance discharge/μF 127 Delta(Phase(Z))/% 128 Delta([Z])/% 129 Delta(Re(Z))/% 130 Delta(-Im(Z))/% 131 Ns 132 dl/dt/mA/s 133 Delta(mass)/g 134 Custom01 135 Custom02 136 Custom03 137 Custom04 138 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom09 143 Custom10 144 Custom11 145 Custom12 146 Custom12 146 Custom13 147 Custom14 148 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom19 154 Delta(Phase(Y))/% 155 Delta(Y)/% 156 Delta(Y)/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Y))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
112	110	Re(Z21)/Ohm
113 Z32 /Ohm 114 Re(Z32)/Ohm 115 -Im(Z32)/Ohm 116 C32-2/μF-2 117 E21/V 118 E32/V 119 Re(Y)/Ohm-1 120 Im(Y)/Ohm-1 121 Y /Ohm-1 122 Phase(Y)/deg 123 Energy charge/W.h 125 Capacitance charge/μF 126 Capacitance discharge/μF 127 Delta(Phase(Z))/% 128 Delta(Z]//% 129 Delta(Re(Z))/% 130 Delta(-Im(Z))/% 131 Ns 132 dl/dt/mA/s 133 Delta(mass)/g 134 Custom01 135 Custom02 136 Custom03 137 Custom04 138 Custom05 139 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom10 144 Custom11 145 Custom12 146 Custom13 147 Custom14 148 Custom15 149 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom19 153 Custom19 153 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Phase(Y))/% 156 Delta(Phase(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Y))/deg 162 Delta(Phase(Y))/deg 163 Estack /V	111	-lm(Z21)/Ohm
114 Re(Z32)/Ohm 115 -Im(Z32)/Ohm 116 C32-2/μF-2 117 E21/V 118 E32/V 119 Re(Y)/Ohm-1 120 Im(Y)/Ohm-1 121 Y /Ohm-1 122 Phase(Y)/deg 123 Energy charge/W.h 124 Energy discharge/W.h 125 Capacitance charge/μF 126 Capacitance discharge/μF 127 Delta(Phase(Z))/% 128 Delta(Z)/% 129 Delta(Re(Z))/% 130 Delta(-Im(Z))/% 131 Ns 132 dl/dt/mA/s 133 Delta(mass)/g 134 Custom01 135 Custom02 136 Custom03 137 Custom04 138 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom09 143 Custom10 144 Custom11 145 Custom12 146 Custom12 146 Custom13 147 Custom14 148 Custom15 149 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Y)/% 155 Delta(Y)/% 156 Delta(Re(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Y))/deg 162 Delta(Phase(Y))/deg 163 Estack /V	112	C21-2/µF-2
114 Re(Z32)/Ohm 115 -Im(Z32)/Ohm 116 C32-2/μF-2 117 E21/V 118 E32/V 119 Re(Y)/Ohm-1 120 Im(Y)/Ohm-1 121 Y /Ohm-1 122 Phase(Y)/deg 123 Energy charge/W.h 124 Energy discharge/W.h 125 Capacitance charge/μF 126 Capacitance discharge/μF 127 Delta(Phase(Z))/% 128 Delta(Z)/% 129 Delta(Re(Z))/% 130 Delta(-Im(Z))/% 131 Ns 132 dl/dt/mA/s 133 Delta(mass)/g 134 Custom01 135 Custom02 136 Custom03 137 Custom04 138 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom09 143 Custom10 144 Custom11 145 Custom12 146 Custom12 146 Custom13 147 Custom14 148 Custom15 149 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Y)/% 155 Delta(Y)/% 156 Delta(Re(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Y))/deg 162 Delta(Phase(Y))/deg 163 Estack /V	113	Z32 /Ohm
115 -Im(Z32)/Ohm 116 C32-2/μF-2 117 E21/V 118 E32/V 119 Re(Y)/Ohm-1 120 Im(Y)/Ohm-1 121 Y /Ohm-1 122 Phase(Y)/deg 123 Energy charge/W.h 124 Energy discharge/W.h 125 Capacitance charge/μF 126 Capacitance discharge/μF 127 Delta(Phase(Z))/% 128 Delta(Z)/% 129 Delta(Re(Z))/% 130 Delta(-Im(Z))/% 131 Ns 132 dl/dt/mA/s 133 Delta(mass)/g 134 Custom01 135 Custom02 136 Custom03 137 Custom04 138 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom09 143 Custom10 144 Custom11 145 Custom12 146 Custom12 146 Custom13 147 Custom14 148 Custom15 149 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Y)/% 156 Delta(Phase(Y))/% 157 Delta(Phase(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Y))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
116		
117 E21/V 118 E32/V 119 Re(Y)/Ohm-1 120 Im(Y)/Ohm-1 121 Y /Ohm-1 122 Phase(Y)/deg 123 Energy charge/W.h 124 Energy discharge/W.h 125 Capacitance charge/μF 126 Capacitance discharge/μF 127 Delta(Phase(Z))/% 128 Delta(Z)/% 129 Delta(Re(Z))/% 130 Delta(-Im(Z))/% 131 Ns 132 dl/dt/mA/s 133 Delta(mass)/g 134 Custom01 135 Custom02 136 Custom03 137 Custom04 138 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom09 143 Custom10 144 Custom11 145 Custom12 146 Custom13 147 Custom14 148 Custom15 149 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom20 154 Delta(Phase(Y))/% 155 Delta(Y)/% 155 Delta(T)/% 156 Delta(Re(Y))/% 157 Delta(-Im(Y))/% 158 I low 159 I high 160 dt/dE/s/V 161 Delta(Phase(Y))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
118 E32/V 119 Re(Y)/Ohm-1 120 Im(Y)/Ohm-1 121 Y /Ohm-1 122 Phase(Y)/deg 123 Energy charge/W.h 124 Energy discharge/W.h 125 Capacitance charge/μF 126 Capacitance discharge/μF 127 Delta(Phase(Z))/% 128 Delta(Z)/% 129 Delta(Re(Z))/% 130 Delta(-Im(Z))/% 131 Ns 132 dl/dt/mA/s 133 Delta(mass)/g 134 Custom01 135 Custom02 136 Custom03 137 Custom04 138 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom10 144 Custom11 145 Custom12 146 Custom13 147 Custom14 148 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom20 154 Delta(Phase(Y))/% 155 Delta(Y)/% 155 Delta(m(Y))/% 156 Delta(Phase(Y))/deg 160 dt/dE/s/V 161 Delta(Phase(Y))/deg 161 Delta(Phase(Y))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
119 Re(Y)/Ohm-1 120 Im(Y)/Ohm-1 121 Y /Ohm-1 122 Phase(Y)/deg 123 Energy charge/W.h 124 Energy discharge/W.h 125 Capacitance discharge/μF 126 Capacitance discharge/μF 127 Delta(Phase(Z))/% 128 Delta(Phase(Z))/% 130 Delta(Re(Z))/% 131 Ns 132 dl/dt/mA/s 133 Delta(mass)/g 134 Custom01 135 Custom02 136 Custom02 136 Custom02 137 Custom03 137 Custom04 138 Custom05 139 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom10 144 Custom11 145 Custom12 146 Custom15 149 <t< td=""><td></td><td></td></t<>		
120 Im(Y)/Ohm-1 121 Y /Ohm-1 122 Phase(Y)/deg 123 Energy charge/W.h 124 Energy discharge/W.h 125 Capacitance charge/μF 126 Capacitance discharge/μF 127 Delta(Phase(Z))/% 128 Delta(Phase(Z))/% 129 Delta(Re(Z))/% 130 Delta(-Im(Z))/% 131 Ns 132 dl/dt/mA/s 133 Delta(mass)/g 134 Custom01 135 Custom02 136 Custom02 137 Custom03 137 Custom04 138 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom10 144 Custom12 146 Custom12 146 Custom13 147 Custom15 149 Custom16 150 <		
121 Y /Ohm-1 122 Phase(Y)/deg 123 Energy charge/W.h 124 Energy discharge/W.h 125 Capacitance charge/μF 126 Capacitance discharge/μF 127 Delta(Phase(Z))/% 128 Delta(Z)/% 129 Delta(Re(Z))/% 130 Delta(-Im(Z))/% 131 Ns 132 dl/dt/mA/s 133 Delta(mass)/g 134 Custom01 135 Custom02 136 Custom03 137 Custom04 138 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom09 143 Custom10 144 Custom11 145 Custom12 146 Custom13 147 Custom14 148 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Y)/% 156 Delta(Hase(Y))/% 157 Delta(Hase(Y))/deg 160 Jestack /V 161 Delta(Phase(Y))/deg 162 Delta(Phase(Y))/deg 163 Jestack /V		
122 Phase(Y)/deg 123 Energy charge/W.h 124 Energy discharge/W.h 125 Capacitance charge/μF 126 Capacitance discharge/μF 127 Delta(Phase(Z))/% 128 Delta(Z)/% 129 Delta(Re(Z))/% 130 Delta(-Im(Z))/% 131 Ns 132 dl/dt/mA/s 133 Delta(mass)/g 134 Custom01 135 Custom02 136 Custom03 137 Custom04 138 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom09 143 Custom10 144 Custom11 145 Custom12 146 Custom13 147 Custom14 148 Custom15 149 Custom15 149 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Y)/% 156 Delta(Phase(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Z))/deg 163 Estack /V		
Energy charge/W.h 124		
124 Energy discharge/W.h 125 Capacitance charge/μF 126 Capacitance discharge/μF 127 Delta(Phase(Z))/% 128 Delta(Z)/% 129 Delta(Re(Z))/% 130 Delta(-Im(Z))/% 131 Ns 132 dl/dt/mA/s 133 Delta(mass)/g 134 Custom01 135 Custom02 136 Custom03 137 Custom04 138 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom09 143 Custom10 144 Custom11 145 Custom12 146 Custom13 147 Custom14 148 Custom15 149 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(-Im(Y))/% 156 Delta(-Im(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Z))/deg 163 Estack /V		
125		
126 Capacitance discharge/μF 127 Delta(Phase(Z))/% 128 Delta(Phase(Z))/% 129 Delta(Re(Z))/% 130 Delta(-Im(Z))/% 131 Ns 132 dl/dt/mA/s 133 Delta(mass)/g 134 Custom01 135 Custom02 136 Custom03 137 Custom03 137 Custom04 138 Custom05 139 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom09 143 Custom10 144 Custom12 146 Custom12 147 Custom13 147 Custom14 148 Custom15 149 Custom18 150 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Phase(Y))/% <td></td> <td></td>		
127 Delta(Phase(Z))/% 128 Delta(Z)/% 129 Delta(Re(Z))/% 130 Delta(-Im(Z))/% 131 Ns 132 dl/dt/mA/s 133 Delta(mass)/g 134 Custom01 135 Custom02 136 Custom02 136 Custom03 137 Custom04 138 Custom05 139 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom08 143 Custom10 144 Custom12 145 Custom12 146 Custom13 147 Custom14 148 Custom15 149 Custom16 150 Custom17 151 Custom20 154 Delta(Phase(Y))/% 155 Delta(Phase(Y))/% 156 Delta(Phase(Y))/%		
128 Delta(Z)/% 129 Delta(Re(Z))/% 130 Delta(-Im(Z))/% 131 Ns 132 dl/dt/mA/s 133 Delta(mass)/g 134 Custom01 135 Custom02 136 Custom03 137 Custom03 137 Custom04 138 Custom05 139 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom08 142 Custom09 143 Custom10 144 Custom12 146 Custom13 147 Custom14 148 Custom15 149 Custom16 150 Custom17 151 Custom20 154 Delta(Phase(Y))/% 155 Delta(Phase(Y))/% 156 Delta(-Im(Y))/% 158 t low 159		
129 Delta(Re(Z))/% 130 Delta(-Im(Z))/% 131 Ns 132 dl/dt/mA/s 133 Delta(mass)/g 134 Custom01 135 Custom02 136 Custom03 137 Custom04 138 Custom05 139 Custom05 140 Custom07 141 Custom08 142 Custom08 143 Custom10 144 Custom10 144 Custom12 146 Custom12 146 Custom13 147 Custom14 148 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Phase(Y))/% 156 Delta(-Im(Y))/% 158 t low 159 <td></td> <td></td>		
130 Delta(-Im(Z))/% 131 Ns 132 dl/dt/mA/s 133 Delta(mass)/g 134 Custom01 135 Custom02 136 Custom03 137 Custom04 138 Custom05 139 Custom05 140 Custom06 140 Custom07 141 Custom08 142 Custom09 143 Custom10 144 Custom11 145 Custom12 146 Custom12 147 Custom13 147 Custom14 148 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom20 154 Delta(Phase(Y))/% 155 Delta(Phase(Y))/% 156 Delta(Pincy) 158 t low 159 t high 160 <		
130 Delta(-Im(Z))/% 131 Ns 132 dl/dt/mA/s 133 Delta(mass)/g 134 Custom01 135 Custom02 136 Custom03 137 Custom04 138 Custom05 139 Custom05 140 Custom06 140 Custom07 141 Custom08 142 Custom09 143 Custom10 144 Custom11 145 Custom12 146 Custom12 147 Custom13 147 Custom14 148 Custom15 149 Custom16 150 Custom18 152 Custom18 152 Custom20 154 Delta(Phase(Y))/% 155 Delta(Phase(Y))/% 156 Delta(Re(Y))/% 157 Delta(Phase(Y))/% 158 t low 159 </td <td>129</td> <td></td>	129	
132 dl/dt/mA/s 133 Delta(mass)/g 134 Custom01 135 Custom02 136 Custom03 137 Custom04 138 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom09 143 Custom10 144 Custom12 145 Custom12 146 Custom12 147 Custom13 147 Custom14 148 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Phase(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162<	130	Delta(-Im(Z))/%
133 Delta(mass)/g 134 Custom01 135 Custom02 136 Custom03 137 Custom04 138 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom09 143 Custom10 144 Custom12 146 Custom12 147 Custom12 148 Custom13 147 Custom14 148 Custom15 149 Custom15 149 Custom16 150 Custom18 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Phase(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 <td>131</td> <td>Ns</td>	131	Ns
133 Delta(mass)/g 134 Custom01 135 Custom02 136 Custom03 137 Custom04 138 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom09 143 Custom10 144 Custom12 146 Custom12 147 Custom12 148 Custom13 147 Custom14 148 Custom15 149 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Pin(Y))/% 156 Delta(Fin(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161	132	dI/dt/mA/s
134 Custom01 135 Custom02 136 Custom03 137 Custom04 138 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom09 143 Custom10 144 Custom11 145 Custom12 146 Custom12 147 Custom13 147 Custom14 148 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Phase(Y))/% 156 Delta(Re(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Y))/deg 163 Estack /V	133	
135 Custom02 136 Custom03 137 Custom04 138 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom09 143 Custom10 144 Custom11 145 Custom12 146 Custom12 147 Custom13 147 Custom14 148 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Phase(Y))/% 157 Delta(Re(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Y))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
136 Custom03 137 Custom04 138 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom09 143 Custom10 144 Custom11 145 Custom12 146 Custom12 147 Custom13 147 Custom14 148 Custom15 149 Custom15 150 Custom15 151 Custom18 152 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Phase(Y))/% 157 Delta(Re(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
137 Custom04 138 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom09 143 Custom10 144 Custom11 145 Custom12 146 Custom13 147 Custom14 148 Custom15 149 Custom15 150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Phase(Y))/% 156 Delta(Re(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Y))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		•
138 Custom05 139 Custom06 140 Custom07 141 Custom08 142 Custom09 143 Custom10 144 Custom11 145 Custom12 146 Custom12 147 Custom13 147 Custom14 148 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Phase(Y))/% 156 Delta(Re(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
139 Custom06 140 Custom07 141 Custom08 142 Custom09 143 Custom10 144 Custom11 145 Custom12 146 Custom13 147 Custom14 148 Custom15 149 Custom15 150 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Phase(Y))/% 156 Delta(Re(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
140 Custom07 141 Custom08 142 Custom09 143 Custom10 144 Custom11 145 Custom12 146 Custom13 147 Custom14 148 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Phase(Y))/% 157 Delta(Re(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
141 Custom08 142 Custom09 143 Custom10 144 Custom11 145 Custom12 146 Custom13 147 Custom14 148 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Phase(Y))/% 156 Delta(Re(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
142 Custom09 143 Custom10 144 Custom11 145 Custom12 146 Custom13 147 Custom14 148 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Phase(Y))/% 156 Delta(Re(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
143 Custom10 144 Custom11 145 Custom12 146 Custom13 147 Custom14 148 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Phase(Y))/% 156 Delta(Re(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
144 Custom11 145 Custom12 146 Custom13 147 Custom14 148 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Phase(Y))/% 156 Delta(Re(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
145 Custom12 146 Custom13 147 Custom14 148 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Phase(Y))/% 156 Delta(Re(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
146 Custom13 147 Custom14 148 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Phase(Y))/% 157 Delta(Re(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
147 Custom14 148 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom20 154 Delta(Phase(Y))/% 155 Delta([Y])/% 156 Delta(Re(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
148 Custom15 149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta([Y])/% 156 Delta(Re(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
149 Custom16 150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Y)/% 156 Delta(Re(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
150 Custom17 151 Custom18 152 Custom19 153 Custom20 154 Delta(Phase(Y))/% 155 Delta(Y)/% 156 Delta(Re(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
151		•
152		•
153		
154 Delta(Phase(Y))/% 155 Delta(Y)/% 156 Delta(Re(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Y))/deg 163 Estack /V	152	Custom19
154 Delta(Phase(Y))/% 155 Delta(Y)/% 156 Delta(Re(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Y))/deg 163 Estack /V	153	Custom20
155 Delta(Y)/% 156 Delta(Re(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
156 Delta(Re(Y))/% 157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
157 Delta(-Im(Y))/% 158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
158 t low 159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
159 t high 160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
160 dt/dE/s/V 161 Delta(Phase(Z))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		•
161 Delta(Phase(Z))/deg 162 Delta(Phase(Y))/deg 163 Estack /V		
162 Delta(Phase(Y))/deg 163 Estack /V		
163 Estack /V		
164 IStack /A		
	164	IStack /A

_	
167	Phase(I)/rad
168	Rcmp/Ohm
169	Cs/μF
170	sin ampl/V
171	Conductivity/S.cm-1
172	Cp/μF
173	Cp-2/μF-2
174	<ewe>/V</ewe>
175	Efficiency/%
176	Cycling rate charge
177	Cycling rate discharge
178	Wavelength/nm
179	Fluorescence/V
180	Fluorescence/%
181	Transmittance/%
182	CD/mdeg
183	ORD/mdeg
184	Aniso Vv/V
185	Aniso Vh/V
186	LD Vv/V
187	LD Vh/V
188	LD/deltaA
189	Anisotropy/Aniso
190	T peltier/°C
191	T cuvette/°C
192	Absorbance/AU
193	HV/V
194	Absorbance2/AU
195	Absorbance/V
196	If/mA
197	Ic/mA
198	CA/mol.L-1
199	CB/mol.L-1
200	CC/mol.L-1
201	CD/mol.L-1
202	CE/mol.L-1
203	CF/mol.L-1
204	CG/mol.L-1
205	CH/mol.L-1
206	CI/mol.L-1
207	CJ/mol.L-1
208	shot number
209	pad number
210	electrode number
211	E1/V
212	E2/V
213	E3/V
214	E4/V
215	E5/V
216	E6/V
217	E7/V
218	E8/V
219	E9/V
	E10/V
220	
221	E11/V
222	E12/V
223	E13/V
224	E14/V

225	E15/V
226	E16/V
227	E17/V
228	E18/V
229	E19/V
230	E20/V
231	E21/V
232	E22/V
233	E23/V
234	E24/V
235	E25/V
236	E26/V
237	E27/V
238	E28/V
239	E29/V
240	E30/V
241	E1 /V
242	E2 /V
243	E3 /V
244	
	E4 /V
245	E5 /V
246	E6 /V
247	E7 /V
248	E8 /V
249	[E9]/V
250	E10 /V
251	E11 /V
252	
	E12 /V
253	E13 /V
254	E14 /V
255	E15 /V
256	E16 /V
257	E17 /V
258	E18 /V
259	E19 /V
260	
	E20 /V
261	E21 /V
262	E22 /V
263	E23 /V
264	E24 /V
265	E25 /V
266	E26 /V
267	E27 /V
268	E28 /V
269	E29 /V
270	E30 /V
271	Phase(Z1)/deg
272	Phase(Z2)/deg
273	Phase(Z3)/deg
274	Phase(Z4)/deg
275	Phase(Z5)/deg
276	Phase(Z6)/deg
277	Phase(Z7)/deg
278	Phase(Z8)/deg
279	Phase(Z9)/deg
280	Phase(Z10)/deg
281	Phase(Z11)/deg
282	Phase(Z12)/deg

283	Phase(Z13)/deg
284	Phase(Z14)/deg
285	Phase(Z15)/deg
286	Phase(Z16)/deg
287	Phase(Z17)/deg
288	Phase(Z18)/deg
289	Phase(Z19)/deg
290	Phase(Z20)/deg
291	Phase(Z21)/deg
292	Phase(Z22)/deg
293	Phase(Z23)/deg
294	Phase(Z24)/deg
295	Phase(Z25)/deg
296	Phase(Z26)/deg
297	Phase(Z27)/deg
298	Phase(Z28)/deg
299	Phase(Z29)/deg
300	Phase(Z30)/deg
301	Z1 /Ohm
302	Z2 /Ohm
303	Z3 /Ohm
304	Z4 /Ohm
305	Z5 /Ohm
306	Z6 /Ohm
307	Z7 /Ohm
308	Z8 /Ohm
309	Z9 /Ohm
310	Z10 /Ohm
311	Z11 /Ohm
312	Z12 /Ohm
313	Z13 /Ohm
314	Z14 /Ohm
315	Z15 /Ohm
316	Z16 /Ohm
317	Z17 /Ohm
318	Z18 /Ohm
319	Z19 /Ohm
320	Z20 /Ohm
321	Z21 /Ohm
322	Z22 /Ohm
323	Z23 /Ohm
324	Z24 /Ohm
325	Z25 /Ohm
326	Z26 /Ohm
327	Z27 /Ohm
328	Z28 /Ohm
329	Z29 /Ohm
330	Z30 /Ohm
331	Re(Z1)/Ohm
332	Re(Z2)/Ohm
333	Re(Z3)/Ohm
334	Re(Z4)/Ohm
335	Re(Z5)/Ohm
336	Re(Z6)/Ohm
337	Re(Z7)/Ohm
338	Re(Z8)/Ohm
339	Re(Z9)/Ohm
340	Re(Z10)/Ohm
	-\

	I
341	Re(Z11)/Ohm
342	Re(Z12)/Ohm
343	Re(Z13)/Ohm
344	Re(Z14)/Ohm
345	Re(Z15)/Ohm
346	Re(Z16)/Ohm
347	Re(Z17)/Ohm
348	Re(Z18)/Ohm
349	Re(Z19)/Ohm
350	Re(Z20)/Ohm
351	Re(Z21)/Ohm
352	Re(Z22)/Ohm
353	Re(Z23)/Ohm
354	Re(Z24)/Ohm
355	Re(Z25)/Ohm
356	Re(Z26)/Ohm
357	Re(Z27)/Ohm
358	Re(Z28)/Ohm
359	Re(Z29)/Ohm
360	Re(Z30)/Ohm
361	-lm(Z1)/Ohm
362	` ,
	-lm(Z2)/Ohm
363	-Im(Z3)/Ohm
364	-Im(Z4)/Ohm
365	-Im(Z5)/Ohm
366	-Im(Z6)/Ohm
367	-lm(Z7)/Ohm
368	-lm(Z8)/Ohm
369	-Im(Z9)/Ohm
370	-Im(Z10)/Ohm
371	-Im(Z11)/Ohm
372	-lm(Z12)/Ohm
373	-lm(Z13)/Ohm
374	-lm(Z14)/Ohm
375	-lm(Z14)/Ohm
376	-lm(Z16)/Ohm
377	-lm(Z17)/Ohm
378	-lm(Z18)/Ohm
379	-lm(Z19)/Ohm
380	-Im(Z20)/Ohm
381	-lm(Z21)/Ohm
382	-lm(Z22)/Ohm
383	` '
	-lm(Z23)/Ohm
	` '
384	-lm(Z24)/Ohm
384 385	-Im(Z24)/Ohm -Im(Z25)/Ohm
384 385 386	-lm(Z24)/Ohm -lm(Z25)/Ohm -lm(Z26)/Ohm
384 385 386 387	-Im(Z24)/Ohm -Im(Z25)/Ohm -Im(Z26)/Ohm -Im(Z27)/Ohm
384 385 386 387 388	-Im(Z24)/Ohm -Im(Z25)/Ohm -Im(Z26)/Ohm -Im(Z27)/Ohm -Im(Z28)/Ohm
384 385 386 387 388 389	-Im(Z24)/Ohm -Im(Z25)/Ohm -Im(Z26)/Ohm -Im(Z27)/Ohm -Im(Z28)/Ohm -Im(Z29)/Ohm
384 385 386 387 388 389 390	-Im(Z24)/Ohm -Im(Z25)/Ohm -Im(Z26)/Ohm -Im(Z27)/Ohm -Im(Z28)/Ohm -Im(Z29)/Ohm -Im(Z30)/Ohm
384 385 386 387 388 389 390 391	-Im(Z24)/Ohm -Im(Z25)/Ohm -Im(Z26)/Ohm -Im(Z27)/Ohm -Im(Z28)/Ohm -Im(Z29)/Ohm -Im(Z30)/Ohm <e1>/V</e1>
384 385 386 387 388 389 390 391 392	-Im(Z24)/Ohm -Im(Z25)/Ohm -Im(Z26)/Ohm -Im(Z27)/Ohm -Im(Z28)/Ohm -Im(Z29)/Ohm -Im(Z30)/Ohm -E1>/V <e2>/V</e2>
384 385 386 387 388 389 390 391	-Im(Z24)/Ohm -Im(Z25)/Ohm -Im(Z26)/Ohm -Im(Z27)/Ohm -Im(Z28)/Ohm -Im(Z29)/Ohm -Im(Z30)/Ohm <e1>/V</e1>
384 385 386 387 388 389 390 391 392	-Im(Z24)/Ohm -Im(Z25)/Ohm -Im(Z26)/Ohm -Im(Z27)/Ohm -Im(Z28)/Ohm -Im(Z29)/Ohm -Im(Z30)/Ohm -E1>/V <e2>/V</e2>
384 385 386 387 388 389 390 391 392 393 394	-Im(Z24)/Ohm -Im(Z25)/Ohm -Im(Z26)/Ohm -Im(Z27)/Ohm -Im(Z28)/Ohm -Im(Z29)/Ohm -Im(Z30)/Ohm -Im(Z30)/Ohm <e1>/V <e2>/V <e3>/V <e4>/V</e4></e3></e2></e1>
384 385 386 387 388 389 390 391 392 393 394 395	-Im(Z24)/Ohm -Im(Z25)/Ohm -Im(Z26)/Ohm -Im(Z27)/Ohm -Im(Z28)/Ohm -Im(Z29)/Ohm -Im(Z30)/Ohm <e1>/V <e2>/V <e3>/V <e4>/V <e5>/V</e5></e4></e3></e2></e1>
384 385 386 387 388 389 390 391 392 393 394 395 396	-Im(Z24)/Ohm -Im(Z25)/Ohm -Im(Z26)/Ohm -Im(Z27)/Ohm -Im(Z28)/Ohm -Im(Z29)/Ohm -Im(Z30)/Ohm <e1>/V <e2>/V <e3>/V <e4>/V <e6>/V</e6></e4></e3></e2></e1>
384 385 386 387 388 389 390 391 392 393 394 395	-Im(Z24)/Ohm -Im(Z25)/Ohm -Im(Z26)/Ohm -Im(Z27)/Ohm -Im(Z28)/Ohm -Im(Z29)/Ohm -Im(Z30)/Ohm <e1>/V <e2>/V <e3>/V <e4>/V <e5>/V</e5></e4></e3></e2></e1>

399	<e9>/V</e9>
400	<e10>/V</e10>
401	<e11>/V</e11>
402	<e12>/V</e12>
403	<e13>/V</e13>
404	<e14>/V</e14>
405	<e15>/V</e15>
406	<e16>/V</e16>
407	<e17>/V</e17>
408	<e18>/V</e18>
409	<e19>/V</e19>
410	<e20>/V</e20>
411	<e21>/V</e21>
412	<e22>/V</e22>
413	<e23>/V</e23>
414	<e24>/V</e24>
415	<e25>/V</e25>
416	<e26>/V</e26>
417	<e27>/V</e27>
417	<e28>/V</e28>
419	<e29>/V</e29>
420	<e30>/V</e30>
421	Phase2/deg
422	Phase(Zstack)/deg
423	Zstack /Ohm
424	Re(Zstack)/Ohm
425	-Im(Zstack)/Ohm
426	<estack>/V</estack>
427	<istack>/mA</istack>
428	Potential/V
429	Potential/V
430	Phase(Zwe-ce)/deg
431	Zwe-ce /Ohm
432	Re(Zwe-ce)/Ohm
433	-Im(Zwe-ce)/Ohm
434	(Q-Qo)/C
435	dQ/C
436	Ece dc/V
437	cycle time/s
438	step time/s
439	charge time/s
440	discharge time/s
441	<ece>/V</ece>
442	d(Q-Qo)/dE/mA.h/V
443	Capacity/mA.h
444	control disk/V
445	control disk/mA
446	Edisk/V
447	Ecedisk=Ecering/V
448	Idisk/mA
449	dQdisk/C
450	(Q-Qo)disk/C
451	cycle number
452	control ring/V
453	Ering/V
-1 00	
454	Iring/mA
	Iring/mA (Q-Qo)ring/C
454	

457	Duin a AA
457	Pring/W
458	Edisk-Ece/V
459	Ering-Ece/V
460	<time>/s</time>
461	<ewex>/V</ewex>
462	Temperature/°C
463	Ramp upwards
464	Time/μs
465	I Range disk
466	I Range ring
467	Q charge/discharge/mA.h
468	half cycle
469	z cycle
470	It/mA
471	<ece>/V</ece>
472	Vcorr/mm/yr
473	THD Ewe/%
474	THD I/%
475	THD Ece/%
476	NSD Ewe/%
477	NSD I/%
478	NSD Ece/%
479	NSR Ewe/%
480	NSR I/%
481	NSR Ece/%
482	ShuntlsChanging
483	ModelsChanging
484	NblterInstr
485	Instr
486	Ewe h2 /V
487	Ewe h3 /V
488	Ewe h4 /V
489	Ewe h5 /V
490	Ewe h6 /V
491	Ewe h7 /V
492	I h2 /A
493	I h3 /A
494	I h4 /A
495	I h5 /A
496	I h6 /A
497	I h7 /A
498	Ece h2 /V
499	Ece h3 /V
500	Ece h4 /V
501	Ece h5 /V
502	Ece h6 /V
503	Ece h7 /V
504	Rac/Ohm
505	Rdc/Ohm
506	TCU control/°C
507	TCU meas. /°C
508	Regulation
509	Acir/Dcir Control
510	LTime/s
511	Re(C)/nF
512	Im(C)/nF
513	C /nF
513	
314	Phase(C)/deg

515	Re(M)
516	Im(M)
517	M
518	Phase(M)/deg
519	Re(Permittivity)
520	Im(Permittivity)
521	Permittivity
522	Phase(Permittivity)/deg
523	Re(Conductivity)/mS/cm
524	Im(Conductivity)/mS/cm
525	Conductivity /mS/cm
526	Phase(Conductivity)/deg
527	Re(Resistivity)/Ohm.cm
528	Im(Resistivity)/Ohm.cm
529	Resistivity /Ohm.cm

530	Phase(Resistivity)/deg
531	Tan(Delta)
532	Loss Angle(Delta)/deg
533	TCU base /°C
534	TCU cell /°C
535	TCU sample/°C
536	Ewe initial/V
537	Ewe final/V
538	I initial/mA
539	I final/mA
540	P min/W
541	P max/W
542	T min/°C
543	T max/°C

4.5 Amplifier codes

Code	Description
0	No amplifier
1	2 A amplifier
2	1 A amplifier
2 3 4	5 A amplifier
4	10 A amplifier
5	20 A amplifier
6	100 mA 40 V amplifier
7	low current option
8	80 A amplifier
9	4 A amplifier
10	unused
11	4 A amplifier
12	low current option
13	unused
14	MUIC special cable
15	No amplifier
16	8 A amplifier
17	500 W load box
18	100 A amplifier
19	2 kW load box
20	1A 48V amplifier
21	4 A 14 V amplifier
22	5 A amplifier
23	10 A amplifier
24	20 A amplifier
25	40 A amplifier
26	Coin cell holder
27	10 A 5V amplifier
28	2A 30V amplifier
29	8 A 14 V amplifier
30	12 A 14 V amplifier
31	16 A 14 V amplifier
32	20 A 14 V amplifier
33	24 A 14 V amplifier
34	28 A 14 V amplifier
35	32 A 14 V amplifier

36 36 A 14 V amplifier 37 40 A 14 V amplifier 38 44 A 14 V amplifier 40 52 A 14 V amplifier 41 56 A 14 V amplifier 42 60 A 14 V amplifier 43 64 A 14 V amplifier 44 20 A 5V amplifier 45 30 A 5V amplifier 46 40 A 5V amplifier 47 50 A 5V amplifier 48 60 A 5V amplifier 49 70 A 5V amplifier 50 80 A 5V amplifier 51 90 A 5V amplifier 52 100 A 5V amplifier 53 110 A 5V amplifier 54 120 A 5V amplifier 55 130 A 5V amplifier 56 140 A 5V amplifier 57 150 A 5V amplifier 58 160 A 5V amplifier 60 6A 30V amplifier 61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier<		
38 44 A 14 V amplifier 39 48 A 14 V amplifier 40 52 A 14 V amplifier 41 56 A 14 V amplifier 42 60 A 14 V amplifier 43 64 A 14 V amplifier 44 20 A 5V amplifier 45 30 A 5V amplifier 46 40 A 5V amplifier 47 50 A 5V amplifier 48 60 A 5V amplifier 50 80 A 5V amplifier 51 90 A 5V amplifier 52 100 A 5V amplifier 53 110 A 5V amplifier 54 120 A 5V amplifier 55 130 A 5V amplifier 56 140 A 5V amplifier 57 150 A 5V amplifier 58 160 A 5V amplifier 59 4A 30V amplifier 60 6A 30V amplifier 61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier <td></td> <td></td>		
39 48 A 14 V amplifier 40 52 A 14 V amplifier 41 56 A 14 V amplifier 42 60 A 14 V amplifier 43 64 A 14 V amplifier 44 20 A 5V amplifier 45 30 A 5V amplifier 46 40 A 5V amplifier 47 50 A 5V amplifier 48 60 A 5V amplifier 50 80 A 5V amplifier 51 90 A 5V amplifier 52 100 A 5V amplifier 53 110 A 5V amplifier 54 120 A 5V amplifier 55 130 A 5V amplifier 56 140 A 5V amplifier 57 150 A 5V amplifier 58 160 A 5V amplifier 59 4A 30V amplifier 60 6A 30V amplifier 61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier		40 A 14 V amplifier
40 52 A 14 V amplifier 41 56 A 14 V amplifier 42 60 A 14 V amplifier 43 64 A 14 V amplifier 44 20 A 5V amplifier 45 30 A 5V amplifier 46 40 A 5V amplifier 47 50 A 5V amplifier 48 60 A 5V amplifier 49 70 A 5V amplifier 50 80 A 5V amplifier 51 90 A 5V amplifier 52 100 A 5V amplifier 53 110 A 5V amplifier 54 120 A 5V amplifier 55 130 A 5V amplifier 56 140 A 5V amplifier 57 150 A 5V amplifier 58 160 A 5V amplifier 59 4A 30V amplifier 60 6A 30V amplifier 61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier		44 A 14 V amplifier
41 56 A 14 V amplifier 42 60 A 14 V amplifier 43 64 A 14 V amplifier 44 20 A 5V amplifier 45 30 A 5V amplifier 46 40 A 5V amplifier 47 50 A 5V amplifier 48 60 A 5V amplifier 49 70 A 5V amplifier 50 80 A 5V amplifier 51 90 A 5V amplifier 52 100 A 5V amplifier 53 110 A 5V amplifier 54 120 A 5V amplifier 55 130 A 5V amplifier 56 140 A 5V amplifier 57 150 A 5V amplifier 58 160 A 5V amplifier 59 4A 30V amplifier 60 6A 30V amplifier 61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 70 26A 30V amplifier	39	48 A 14 V amplifier
42 60 A 14 V amplifier 43 64 A 14 V amplifier 44 20 A 5V amplifier 45 30 A 5V amplifier 46 40 A 5V amplifier 47 50 A 5V amplifier 48 60 A 5V amplifier 49 70 A 5V amplifier 50 80 A 5V amplifier 51 90 A 5V amplifier 52 100 A 5V amplifier 53 110 A 5V amplifier 54 120 A 5V amplifier 55 130 A 5V amplifier 56 140 A 5V amplifier 57 150 A 5V amplifier 58 160 A 5V amplifier 59 4A 30V amplifier 60 6A 30V amplifier 61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier </td <td>40</td> <td></td>	40	
43 64 A 14 V amplifier 44 20 A 5V amplifier 45 30 A 5V amplifier 46 40 A 5V amplifier 47 50 A 5V amplifier 48 60 A 5V amplifier 49 70 A 5V amplifier 50 80 A 5V amplifier 51 90 A 5V amplifier 52 100 A 5V amplifier 53 110 A 5V amplifier 54 120 A 5V amplifier 55 130 A 5V amplifier 56 140 A 5V amplifier 57 150 A 5V amplifier 58 160 A 5V amplifier 60 6A 30V amplifier 61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier	41	56 A 14 V amplifier
44 20 A 5V amplifier 45 30 A 5V amplifier 46 40 A 5V amplifier 47 50 A 5V amplifier 48 60 A 5V amplifier 49 70 A 5V amplifier 50 80 A 5V amplifier 51 90 A 5V amplifier 52 100 A 5V amplifier 53 110 A 5V amplifier 54 120 A 5V amplifier 55 130 A 5V amplifier 56 140 A 5V amplifier 57 150 A 5V amplifier 58 160 A 5V amplifier 60 6A 30V amplifier 61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier	42	60 A 14 V amplifier
45 30 A 5V amplifier 46 40 A 5V amplifier 47 50 A 5V amplifier 48 60 A 5V amplifier 49 70 A 5V amplifier 50 80 A 5V amplifier 51 90 A 5V amplifier 52 100 A 5V amplifier 53 110 A 5V amplifier 54 120 A 5V amplifier 55 130 A 5V amplifier 56 140 A 5V amplifier 57 150 A 5V amplifier 58 160 A 5V amplifier 59 4A 30V amplifier 60 6A 30V amplifier 61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier		
46 40 A 5V amplifier 47 50 A 5V amplifier 48 60 A 5V amplifier 49 70 A 5V amplifier 50 80 A 5V amplifier 51 90 A 5V amplifier 52 100 A 5V amplifier 53 110 A 5V amplifier 54 120 A 5V amplifier 55 130 A 5V amplifier 56 140 A 5V amplifier 57 150 A 5V amplifier 58 160 A 5V amplifier 59 4A 30V amplifier 60 6A 30V amplifier 61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier	44	
47 50 A 5V amplifier 48 60 A 5V amplifier 49 70 A 5V amplifier 50 80 A 5V amplifier 51 90 A 5V amplifier 52 100 A 5V amplifier 53 110 A 5V amplifier 54 120 A 5V amplifier 55 130 A 5V amplifier 56 140 A 5V amplifier 57 150 A 5V amplifier 58 160 A 5V amplifier 59 4A 30V amplifier 60 6A 30V amplifier 61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier	45	
48 60 A 5V amplifier 49 70 A 5V amplifier 50 80 A 5V amplifier 51 90 A 5V amplifier 52 100 A 5V amplifier 53 110 A 5V amplifier 54 120 A 5V amplifier 55 130 A 5V amplifier 56 140 A 5V amplifier 57 150 A 5V amplifier 58 160 A 5V amplifier 59 4A 30V amplifier 60 6A 30V amplifier 61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier	46	40 A 5V amplifier
49 70 A 5V amplifier 50 80 A 5V amplifier 51 90 A 5V amplifier 52 100 A 5V amplifier 53 110 A 5V amplifier 54 120 A 5V amplifier 55 130 A 5V amplifier 56 140 A 5V amplifier 57 150 A 5V amplifier 58 160 A 5V amplifier 60 6A 30V amplifier 61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier	47	
50 80 A 5V amplifier 51 90 A 5V amplifier 52 100 A 5V amplifier 53 110 A 5V amplifier 54 120 A 5V amplifier 55 130 A 5V amplifier 56 140 A 5V amplifier 57 150 A 5V amplifier 58 160 A 5V amplifier 60 6A 30V amplifier 61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier	48	60 A 5V amplifier
51 90 A 5V amplifier 52 100 A 5V amplifier 53 110 A 5V amplifier 54 120 A 5V amplifier 55 130 A 5V amplifier 56 140 A 5V amplifier 57 150 A 5V amplifier 58 160 A 5V amplifier 60 6A 30V amplifier 61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier	49	70 A 5V amplifier
52 100 A 5V amplifier 53 110 A 5V amplifier 54 120 A 5V amplifier 55 130 A 5V amplifier 56 140 A 5V amplifier 57 150 A 5V amplifier 58 160 A 5V amplifier 60 6A 30V amplifier 61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier	50	80 A 5V amplifier
53 110 A 5V amplifier 54 120 A 5V amplifier 55 130 A 5V amplifier 56 140 A 5V amplifier 57 150 A 5V amplifier 58 160 A 5V amplifier 59 4A 30V amplifier 60 6A 30V amplifier 61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier	51	90 A 5V amplifier
54 120 A 5V amplifier 55 130 A 5V amplifier 56 140 A 5V amplifier 57 150 A 5V amplifier 58 160 A 5V amplifier 59 4A 30V amplifier 60 6A 30V amplifier 61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier	52	100 A 5V amplifier
55 130 A 5V amplifier 56 140 A 5V amplifier 57 150 A 5V amplifier 58 160 A 5V amplifier 59 4A 30V amplifier 60 6A 30V amplifier 61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier		110 A 5V amplifier
56 140 A 5V amplifier 57 150 A 5V amplifier 58 160 A 5V amplifier 59 4A 30V amplifier 60 6A 30V amplifier 61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier		120 A 5V amplifier
57 150 A 5V amplifier 58 160 A 5V amplifier 59 4A 30V amplifier 60 6A 30V amplifier 61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier	55	130 A 5V amplifier
58 160 A 5V amplifier 59 4A 30V amplifier 60 6A 30V amplifier 61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier	56	140 A 5V amplifier
59 4A 30V amplifier 60 6A 30V amplifier 61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier	57	150 A 5V amplifier
60 6A 30V amplifier 61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier	58	
61 8A 30V amplifier 62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier	59	
62 10A 30V amplifier 63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier	60	
63 12A 30V amplifier 64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier	61	
64 14A 30V amplifier 65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier	62	10A 30V amplifier
65 16A 30V amplifier 66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier	63	12A 30V amplifier
66 18A 30V amplifier 67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier	64	14A 30V amplifier
67 20A 30V amplifier 68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier	65	16A 30V amplifier
68 22A 30V amplifier 69 24A 30V amplifier 70 26A 30V amplifier 71 28A 30V amplifier	66	18A 30V amplifier
 24A 30V amplifier 26A 30V amplifier 28A 30V amplifier 	67	20A 30V amplifier
70 26A 30V amplifier71 28A 30V amplifier	68	22A 30V amplifier
71 28A 30V amplifier	69	24A 30V amplifier
72 30A 30V amplifier		
	72	30A 30V amplifier

73 32A 30V amplifier 74 30 A amplifier 75 60 A amplifier 76 120 A amplifier 77 HCV-3048 amplifier 78 HCV-6048 amplifier 79 HCV-9048 amplifier 80 HCV-12048 amplifier 81 HCV-15048 amplifier 82 HCV-18048 amplifier 83 HCV-21048 amplifier 84 HCV-24048 amplifier 85 HCV-27048 amplifier 86 HCV-30048 amplifier 87 HCV-33048 amplifier 88 HCV-39048 amplifier 90 HCV-42048 amplifier 91 HCV-45048 amplifier 92 HCV-48048 amplifier 93 FlexP0160/2 95 FlexP0160/2 95 FlexP0160/3 96 FlexP0160/4 97 FlexP0012/2 99 FlexP0060/4 101 FlexP0060/2 103 FlexP0060/3 104 FlexP0060/4	_	
75 60 A amplifier 76 120 A amplifier 77 HCV-3048 amplifier 78 HCV-6048 amplifier 79 HCV-9048 amplifier 80 HCV-12048 amplifier 81 HCV-15048 amplifier 82 HCV-18048 amplifier 83 HCV-21048 amplifier 84 HCV-24048 amplifier 85 HCV-27048 amplifier 86 HCV-30048 amplifier 87 HCV-3048 amplifier 88 HCV-3048 amplifier 90 HCV-43048 amplifier 91 HCV-4948 amplifier 92 HCV-48048 amplifier 93 FlexP0160/2 95 FlexP0160/3 96 FlexP0160/4 97 FlexP 0012 98 FlexP0012/2 99 FlexP0012/3 100 FlexP0012/4 101 FlexP 0060 102 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier 107 3A 48V amplifier	73	32A 30V amplifier
76 120 A amplifier 77 HCV-3048 amplifier 78 HCV-6048 amplifier 79 HCV-9048 amplifier 80 HCV-12048 amplifier 81 HCV-15048 amplifier 82 HCV-18048 amplifier 83 HCV-21048 amplifier 84 HCV-24048 amplifier 85 HCV-30048 amplifier 86 HCV-30048 amplifier 87 HCV-33048 amplifier 88 HCV-39048 amplifier 90 HCV-42048 amplifier 91 HCV-45048 amplifier 92 HCV-48048 amplifier 93 FlexP0160/2 95 FlexP0160/2 95 FlexP0160/3 96 FlexP0160/4 97 FlexP0012/2 98 FlexP0012/3 100 FlexP0060/4 101 FlexP0060/2 103 FlexP0060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier <		
77 HCV-3048 amplifier 78 HCV-6048 amplifier 79 HCV-9048 amplifier 80 HCV-12048 amplifier 81 HCV-15048 amplifier 82 HCV-18048 amplifier 83 HCV-21048 amplifier 84 HCV-24048 amplifier 85 HCV-27048 amplifier 86 HCV-30048 amplifier 87 HCV-3048 amplifier 88 HCV-3048 amplifier 89 HCV-3048 amplifier 90 HCV-42048 amplifier 91 HCV-45048 amplifier 92 HCV-48048 amplifier 93 FlexP0160/2 95 FlexP0160/3 96 FlexP0160/4 97 FlexP 0012 98 FlexP0012/2 99 FlexP0012/3 100 FlexP0012/4 101 FlexP 0060 102 FlexP0060/2 103 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier	75	60 A amplifier
78 HCV-6048 amplifier 79 HCV-9048 amplifier 80 HCV-12048 amplifier 81 HCV-15048 amplifier 82 HCV-18048 amplifier 83 HCV-21048 amplifier 84 HCV-24048 amplifier 85 HCV-30048 amplifier 86 HCV-30048 amplifier 87 HCV-3048 amplifier 89 HCV-39048 amplifier 90 HCV-42048 amplifier 91 HCV-45048 amplifier 92 HCV-48048 amplifier 93 FlexP 0160 94 FlexP0160/2 95 FlexP0160/3 96 FlexP0160/4 97 FlexP 0012/2 99 FlexP0012/3 100 FlexP0060/2 101 FlexP 0060 102 FlexP0060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier 107 3A 48V amplifier	76	
79 HCV-9048 amplifier 80 HCV-12048 amplifier 81 HCV-15048 amplifier 82 HCV-18048 amplifier 83 HCV-21048 amplifier 84 HCV-24048 amplifier 85 HCV-27048 amplifier 86 HCV-30048 amplifier 87 HCV-3048 amplifier 89 HCV-3048 amplifier 90 HCV-42048 amplifier 91 HCV-45048 amplifier 92 HCV-45048 amplifier 93 FlexP0160 94 FlexP0160/2 95 FlexP0160/3 96 FlexP0160/4 97 FlexP 0012 98 FlexP0012/2 99 FlexP0012/3 100 FlexP0012/4 101 FlexP0060/1 102 FlexP0060/1 103 FlexP0060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier		HCV-3048 amplifier
80 HCV-12048 amplifier 81 HCV-15048 amplifier 82 HCV-18048 amplifier 83 HCV-21048 amplifier 84 HCV-24048 amplifier 85 HCV-27048 amplifier 86 HCV-30048 amplifier 87 HCV-33048 amplifier 88 HCV-36048 amplifier 89 HCV-39048 amplifier 90 HCV-42048 amplifier 91 HCV-42048 amplifier 91 HCV-45048 amplifier 92 HCV-48048 amplifier 93 FlexP 0160 94 FlexP0160/2 95 FlexP0160/3 96 FlexP0160/4 97 FlexP 0012 98 FlexP0012/3 100 FlexP0012/4 101 FlexP 0060 102 FlexP0060/2 103 FlexP0060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier	78	
81 HCV-15048 amplifier 82 HCV-18048 amplifier 83 HCV-21048 amplifier 84 HCV-24048 amplifier 85 HCV-27048 amplifier 86 HCV-30048 amplifier 87 HCV-33048 amplifier 88 HCV-36048 amplifier 89 HCV-36048 amplifier 90 HCV-42048 amplifier 91 HCV-42048 amplifier 91 HCV-45048 amplifier 92 HCV-48048 amplifier 93 FlexP 0160 94 FlexP0160/2 95 FlexP0160/3 96 FlexP0160/4 97 FlexP 0012 98 FlexP0012/2 99 FlexP0012/3 100 FlexP0012/4 101 FlexP 0060 102 FlexP0060/2 103 FlexP0060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier	79	HCV-9048 amplifier
82 HCV-18048 amplifier 83 HCV-21048 amplifier 84 HCV-24048 amplifier 85 HCV-27048 amplifier 86 HCV-30048 amplifier 87 HCV-33048 amplifier 88 HCV-36048 amplifier 89 HCV-39048 amplifier 90 HCV-42048 amplifier 91 HCV-42048 amplifier 92 HCV-48048 amplifier 93 FlexP 0160 94 FlexP0160/2 95 FlexP0160/3 96 FlexP0160/4 97 FlexP 0012 98 FlexP0012/2 99 FlexP0012/3 100 FlexP0012/4 101 FlexP 0060 102 FlexP0060/2 103 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier	80	
83 HCV-21048 amplifier 84 HCV-24048 amplifier 85 HCV-27048 amplifier 86 HCV-30048 amplifier 87 HCV-33048 amplifier 88 HCV-36048 amplifier 89 HCV-39048 amplifier 90 HCV-42048 amplifier 91 HCV-45048 amplifier 92 HCV-48048 amplifier 93 FlexP 0160 94 FlexP0160/2 95 FlexP0160/3 96 FlexP0160/4 97 FlexP 0012 98 FlexP0012/2 99 FlexP0012/3 100 FlexP0012/4 101 FlexP 0060 102 FlexP0060/2 103 FlexP0060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier	81	
84 HCV-24048 amplifier 85 HCV-30048 amplifier 86 HCV-30048 amplifier 87 HCV-33048 amplifier 88 HCV-36048 amplifier 89 HCV-39048 amplifier 90 HCV-42048 amplifier 91 HCV-45048 amplifier 92 HCV-48048 amplifier 93 FlexP 0160 94 FlexP0160/2 95 FlexP0160/3 96 FlexP0160/4 97 FlexP 0012 98 FlexP0012/2 99 FlexP0012/3 100 FlexP0012/4 101 FlexP 0060 102 FlexP0060/2 103 FlexP0060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier	82	HCV-18048 amplifier
85 HCV-27048 amplifier 86 HCV-30048 amplifier 87 HCV-33048 amplifier 88 HCV-36048 amplifier 89 HCV-39048 amplifier 90 HCV-42048 amplifier 91 HCV-45048 amplifier 92 HCV-48048 amplifier 93 FlexP 0160 94 FlexP0160/2 95 FlexP0160/3 96 FlexP0160/4 97 FlexP 0012 98 FlexP0012/2 99 FlexP0012/3 100 FlexP0012/4 101 FlexP 0060 102 FlexP0060/2 103 FlexP0060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier	83	
86 HCV-30048 amplifier 87 HCV-33048 amplifier 88 HCV-36048 amplifier 89 HCV-39048 amplifier 90 HCV-42048 amplifier 91 HCV-45048 amplifier 92 HCV-48048 amplifier 93 FlexP 0160 94 FlexP0160/2 95 FlexP0160/3 96 FlexP0160/4 97 FlexP 0012 98 FlexP0012/2 99 FlexP0012/3 100 FlexP0012/4 101 FlexP 0060 102 FlexP0060/2 103 FlexP0060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier	84	
87 HCV-33048 amplifier 88 HCV-36048 amplifier 89 HCV-39048 amplifier 90 HCV-42048 amplifier 91 HCV-45048 amplifier 92 HCV-48048 amplifier 93 FlexP 0160 94 FlexP0160/2 95 FlexP0160/3 96 FlexP0160/4 97 FlexP 0012 98 FlexP0012/2 99 FlexP0012/4 100 FlexP0012/4 101 FlexP 0060 102 FlexP060/2 103 FlexP060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier	85	
88 HCV-36048 amplifier 89 HCV-39048 amplifier 90 HCV-42048 amplifier 91 HCV-45048 amplifier 92 HCV-48048 amplifier 93 FlexP 0160 94 FlexP0160/2 95 FlexP0160/4 97 FlexP0012/2 98 FlexP0012/2 99 FlexP0012/4 100 FlexP0012/4 101 FlexP 0060 102 FlexP0060/2 103 FlexP0060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier	86	
89 HCV-39048 amplifier 90 HCV-42048 amplifier 91 HCV-45048 amplifier 92 HCV-48048 amplifier 93 FlexP 0160 94 FlexP0160/2 95 FlexP0160/3 96 FlexP0160/4 97 FlexP 0012 98 FlexP0012/2 99 FlexP0012/3 100 FlexP0012/4 101 FlexP 0060 102 FlexP0060/2 103 FlexP0060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier	87	
90 HCV-42048 amplifier 91 HCV-45048 amplifier 92 HCV-48048 amplifier 93 FlexP 0160 94 FlexP0160/2 95 FlexP0160/3 96 FlexP0160/4 97 FlexP 0012 98 FlexP0012/2 99 FlexP0012/3 100 FlexP0012/4 101 FlexP 0060 102 FlexP0060/2 103 FlexP0060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier	88	HCV-36048 amplifier
90 HCV-42048 amplifier 91 HCV-45048 amplifier 92 HCV-48048 amplifier 93 FlexP 0160 94 FlexP0160/2 95 FlexP0160/3 96 FlexP0160/4 97 FlexP 0012 98 FlexP0012/2 99 FlexP0012/3 100 FlexP0012/4 101 FlexP 0060 102 FlexP0060/2 103 FlexP0060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier	89	HCV-39048 amplifier
92 HCV-48048 amplifier 93 FlexP 0160 94 FlexP0160/2 95 FlexP0160/3 96 FlexP0160/4 97 FlexP 0012 98 FlexP0012/2 99 FlexP0012/3 100 FlexP0012/4 101 FlexP 0060 102 FlexP0060/2 103 FlexP0060/2 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier	90	HCV-42048 amplifier
93 FlexP 0160 94 FlexP0160/2 95 FlexP0160/3 96 FlexP0160/4 97 FlexP 0012 98 FlexP0012/2 99 FlexP0012/3 100 FlexP0012/4 101 FlexP 0060 102 FlexP0060/2 103 FlexP0060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier	91	HCV-45048 amplifier
94 FlexP0160/2 95 FlexP0160/3 96 FlexP0160/4 97 FlexP 0012 98 FlexP0012/2 99 FlexP0012/3 100 FlexP0012/4 101 FlexP 0060 102 FlexP0060/2 103 FlexP0060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier	92	HCV-48048 amplifier
95 FlexP0160/3 96 FlexP0160/4 97 FlexP 0012 98 FlexP0012/2 99 FlexP0012/3 100 FlexP0012/4 101 FlexP 0060 102 FlexP0060/2 103 FlexP0060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier 107 3A 48V amplifier	93	FlexP 0160
96 FlexP0160/4 97 FlexP 0012 98 FlexP0012/2 99 FlexP0012/3 100 FlexP0012/4 101 FlexP 0060 102 FlexP0060/2 103 FlexP0060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier 107 3A 48V amplifier	94	FlexP0160/2
97 FlexP 0012 98 FlexP0012/2 99 FlexP0012/3 100 FlexP0012/4 101 FlexP 0060 102 FlexP0060/2 103 FlexP0060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier 107 3A 48V amplifier	95	FlexP0160/3
98 FlexP0012/2 99 FlexP0012/3 100 FlexP0012/4 101 FlexP 0060 102 FlexP0060/2 103 FlexP0060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier 107 3A 48V amplifier	96	FlexP0160/4
99 FlexP0012/3 100 FlexP0012/4 101 FlexP 0060 102 FlexP0060/2 103 FlexP0060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier 107 3A 48V amplifier	97	FlexP 0012
100 FlexP0012/4 101 FlexP 0060 102 FlexP0060/2 103 FlexP0060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier 107 3A 48V amplifier	98	FlexP0012/2
101 FlexP 0060 102 FlexP0060/2 103 FlexP0060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier 107 3A 48V amplifier	99	FlexP0012/3
102 FlexP0060/2 103 FlexP0060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier 107 3A 48V amplifier	100	FlexP0012/4
103 FlexP0060/3 104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier 107 3A 48V amplifier	101	FlexP 0060
104 FlexP0060/4 105 1A 48V b amplifier 106 2A 48V amplifier 107 3A 48V amplifier	102	FlexP0060/2
105 1A 48V b amplifier 106 2A 48V amplifier 107 3A 48V amplifier	103	FlexP0060/3
106 2A 48V amplifier 107 3A 48V amplifier	104	FlexP0060/4
106 2A 48V amplifier 107 3A 48V amplifier	105	1A 48V b amplifier
107 3A 48V amplifier	106	
108 4A 48V amplifier	107	
	108	4A 48V amplifier

109	5A 48V amplifier
110	6A 48V amplifier
111	7A 48V amplifier
112	8A 48V amplifier
113	9A 48V amplifier
114	10A 48V amplifier
115	11A 48V amplifier
116	12A 48V amplifier
117	13A 48V amplifier
118	14A 48V amplifier
119	15A 48V amplifier
120	16A 48V amplifier
121	FlexP 0160_24V
122	FlexP0160_24V/2
123	FlexP0160_24V/3
124	FlexP0160_24V/4
125	FlexP 0060_24V
126	FlexP0060_24V/2
127	FlexP0060_24V/3
128	FlexP0060_24V/4
129	1A 48V p amplifier
130	2A 48V amplifier
131	3A 48V amplifier
132	4A 48V amplifier
133	5A 48V amplifier
134	6A 48V amplifier
135	7A 48V amplifier
136	8A 48V amplifier
137	9A 48V amplifier
138	10A 48V amplifier
139	11A 48V amplifier
140	12A 48V amplifier
141	13A 48V amplifier
142	14A 48V amplifier
143	15A 48V amplifier
144	16A 48V amplifier

5 Technical specifications

5.1 BT-Lab and EC-Lab minimum version requirement

Versions that include the OLE COM mode:

- EC-Lab v11.11, 03/14/2017 or higher
- BT-Lab v1.57, 11/16/2017 or higher

5.2 PC minimal requirement

Microsoft Windows 7 SP1 Compatible with Windows 8-10