Heat Pump KEYMARK Database – Import File

Import file is CSV format. Each row defines one value and consists of 5 columns. Delimiter character is semicolon (;). Very first row is the header and is not imported. So data starts in second row.

Each CSV file may contain data for one or more models of a single subtype. Model data of a subtype may be splitted into several CSV files (e.g. one file for each model). But a single file must not contain model data of more than one subtype. Columns are

1 .....Model-ID

2 .....Heat pump type

3 .....Variable name

4 .....Variable type

5 .....Value

A variable (row) defines a single physical test point. Some variables exist only once for one model (e.g. Voltage). Some variables exist more than once, e.g. for different purposes (heating mode and cooling mode) or for different conditions (average, warmer and colder climate). The respective purpose or test condition is given by the variable type (column #4).

The heat pump type (column #2) is needed when a single model shall be certified for more than one heat pump type (e.g. water/water and brine/water). In this case most test points must be given for both heat pump types. The given data must name the heat pump type.

Model-ID – Column #1

Model-ID must be unique for each model. Model-ID can be any alphanumeric value. It‘s for internal use only. When data is imported new values will override all existing data for that model.

Heat Pump Type – Column #2

Heat pumpt type is neededfor all data except *General* data when the model shall be certified for two heat pump types. Please use one of the follwing numbers. If there is only one heat pump type the column may be empty.

0.....(not relevant/only one heat pump type shall be certified)

1 .....Outdoor Air/Water

2 .....Brine/Water

3 .....Water/Water

4 .....Air/Air Single Split

5 .....Direct Expansion

6 .....Heat Pump for Domestic Hot Water (DHW)

8 .....Air/Air Multi Split

9 .....Exhaust Air/Water

Variable Name – Column #3

see Appendix B

Variable Type – Column #4

Configuration

0 .....Variable type is always „0“

General

0 .....Variable type is always „0“

EN 14511-2

23 ....A7/W35 (heating / low temp)

33 ....A7/W55 (heating / medium temp)

24 ....B0/W35 (heating / low temp)

34 ....B0/W55 (heating / medium temp)

25 ....W10/W35 (heating / low temp)

35 ....W10/W55 (heating / medium temp)

26 ....A20/W35 (heating / low temp)

36 ....A20/W55 (heating / medium temp)

27 ....E4/W35 (heating / low temp)

37 ....E4/W55 (heating / medium temp)

EN 14511-4

0 .....Heating

1 .....Cooling

EN 12102

0 .....DHW

1 .....Cooling

10 ....Heating / average climate

11 ....Heating / warmer climate

12 ....Heating / colder climate

20 ....Heating / low temp / average climate

21 ....Heating / low temp / warmer climate

22 ....Heating / low temp / colder climate

30 ....Heating / medium temp / average climate

31 ....Heating / medium temp / warmer climate

32 ....Heating / medium temp / colder climate

EN 14825

1 ......Cooling

10 ....Heating / average climate

11 ....Heating / warmer climate

12 ....Heating / colder climate

20 ....Heating / low temp / average climate

21 ....Heating / low temp / warmer climate

22 ....Heating / low temp / colder climate

30 ....Heating / medium temp / average climate

31 ....Heating / medium temp / warmer climate

32 ....Heating / medium temp / colder climate

EN 16147

10 ....DHW / average climate

11 ....DHW / warmer climate

12 ....DHW / colder climate

Value – Column #5

Valid values

string ......UTF-8 encoded string

boolean…0 or 1

integer ….positive or negative value; no decimals, no thousends separator

float .....positive or negative value; one or two decimals (see Appendix B), no thousends separator; decimal point is point (.)

Appendix A – Example

```
modelID;hpType;varName;varType;value;[1]
m001;0;General_000;0;“EHSH04P30B“;[2]
m001;0;General_001;0;50;[3]
m001;0;General_002;0;230;[4]
…
m001;0;EN14825_008;20;4.2;[5]
m001;0;EN14825_008;30;4.2;[6]
…
m002;0;General_000;0;“EHSHB04P30B“;[7]
m002;0;General_001;0;50;[8]
m002;0;General_002;0;230;[9]
m002;0;EN14825_008;20;4.3;[10]
m002;0;EN14825_008;30;4.3;[11]
```

[1] First row is header; will be ignored
[2] Variable „General_000“ is model name (see Appendix B)
[3] General data: Frequency
[4] General data: Voltage
[5] Value for EN14825: Pdh: Tj = - 7 °C [kW]; variable type 20: Heating / low temp / average climate
[6] Value for EN14825: Pdh: Tj = - 7 °C [kW]; variable type 30: Heating / medium temp / average climate
[7-11] Same as [2-6] for second model (different model-ID)

Appendix B – List of variable names

Configuration						
var_name	**type**	**required**	**min**	**max**	**unit**	**label**
Config_001	string(255)	NO				Model name
Config_002	boolean	NO				Low Temp Heat Pump
Config_003	boolean	NO				Medium Temp Heat Pump
Config_004	boolean	NO				Warmer Climate
Config_005	boolean	NO				Colder Climate
Config_006	boolean	NO				Domestic Hot Water
Config_007	boolean	NO				Cooling Mode
Config_008	boolean	NO				Indoor Unit
Config_009	boolean	NO				Outdoor Unit

General Data						
var_name	**type**	**required**	**min**	**max**	**unit**	**label**
General_001	integer	YES	50	60	Hz	Frequency
General_002	integer	YES	110	400	V	Voltage
General_003	boolean	YES	0	1		Off-peak product
EN 14511-2						
var_name	**type**	**required**	**min**	**max**	**unit**	**label**
EN14511_2_001	float(.2)	YES	0.01	400	kW	Heat output
EN14511_2_002	float(.2)	YES	0.01	400	kW	El input
EN14511_2_003	float(.2)	YES	0.01	15		COP
EN14511_2_004	integer	YES	0	100000	m^3/h	Indoor water flow rate
EN 14511-4						
var_name	**type**	**required**	**min**	**max**	**unit**	**label**
EN14511_4_001	boolean	YES	0	1		Operating range outdoor exchanger/indoor exchanger lower limit/lower limit
EN14511_4_002	boolean	YES	0	1		Operating range outdoor exchanger/indoor exchanger upper limit/upper limit
EN14511_4_003	boolean	YES	0	1		Shutting off the heat transfer medium flow

EN14511_4_004	boolean	YES	0	1		Complete power supply failure
EN14511_4_005	boolean	YES	0	1		Defrost test
EN 12102						
var_name	**type**	**required**	**min**	**max**	**unit**	**label**
EN12102_001	integer	YES	0	150	dB(A)	Sound power level indoor
EN12102_002	integer	YES	0	150	dB(A)	Sound power level outdoor
EN 14825						
var_name	**type**	**required**	**min**	**max**	**unit**	**label**
EN14825_043	float(.2)	YES	0.01	1000	kW	Pdesignh
EN14825_001	integer	YES	1	600	%	ηs
EN14825_002	float(.2)	YES	0.01	1000	kW	Prated
EN14825_003	float(.2)	YES	0.01	10		SCOP
EN14825_004	integer	YES	-22	7	°C	Tbiv
EN14825_005	integer	YES	-22	2	°C	TOL
EN14825_008	float(.2)	YES	0.01	400	kW	Pdh Tj = -7°C
EN14825_009	float(.2)	YES	0.01	15		COPd Tj = -7°C
EN14825_010	float(.2)	YES	0.01	400	kW	Pdh Tj = +2°C

EN14825_011	float(.2)	YES	0.01	15		COPd Tj = +2°C
EN14825_012	float(.2)	YES	0.01	400	kW	Pdh Tj = +7°C
EN14825_013	float(.2)	YES	0.01	15		COPd Tj = +7°C
EN14825_014	float(.2)	YES	0.01	400	kW	Pdh Tj = +12°C
EN14825_015	float(.2)	YES	0.01	15		COPd Tj = +12°C
EN14825_016	float(.2)	YES	0.01	400	kW	Pdh Tj = bivalent temperature
EN14825_017	float(.2)	YES	0.01	15		COPd Tj = bivalent temperature
EN14825_006	float(.2)	YES	0.01	400	kW	Pdh Tj = -15°C (if TOL < -20°C)
EN14825_007	float(.2)	YES	0.01	15		COPd Tj = -15°C (if TOL < -20°C)
EN14825_018	float(.2)	YES	0.01	400	kW	Pdh Tj = TOL
EN14825_019	float(.2)	YES	0.01	15		COPd Tj = TOL
EN14825_020	integer	YES	0	1000000	m^3/h	Rated airflow rate
EN14825_021	float(.2)	NO	0.01	1		Cdh
EN14825_030	float(.2)	YES	0.01	1000	kW	Pdesignc
EN14825_031	float(.2)	YES				SEER
EN14825_032	float(.2)	YES	0.01	400	kW	Pdc Tj = 35°C
EN14825_033	float(.2)	YES	0.01	15		EERd Tj = 35°C
EN14825_034	float(.2)	YES	0.01	400	kW	Pdc Tj = 30°C

EN14825_035	float(.2)	YES	0.01	15		EERd Tj = 30°C
EN14825_036	float(.2)	YES	0.01	400	kW	Pdc Tj = 25°C
EN14825_037	float(.2)	YES	0.01	15		EERd Tj = 25°C
EN14825_038	float(.2)	YES	0.01	400	kW	Pdc Tj = 20°C
EN14825_039	float(.2)	YES	0.01	15		EERd Tj = 20°C
EN14825_040	float(.1)	NO	0.01	1		Cdc
EN14825_022	integer	YES	1	100	°C	WTOL
EN14825_023	integer	YES	0	4000	W	POFF
EN14825_024	integer	YES	0	4000	W	PTO
EN14825_025	integer	YES	0	4000	W	PSB
EN14825_026	integer	YES	0	4000	W	PCK
EN14825_027	string(255)	YES				Supplementary Heater: Type of energy input
EN14825_028	float(.2)	YES	0	400	kW	Supplementary Heater: PSUP
EN14825_042	float(.2)	YES	0	400	kW	Backup Heater: PSUP
EN14825_029	integer	YES	0	1000000	kWh	Annual energy consumption QHE
EN14825_041	integer	YES	0	1000000	kWh	Annual energy consumption QCE

EN 16147						
var_name	**type**	**required**	**min**	**max**	**unit**	**label**
EN16147_001	string(255)	YES				Declared load profile
EN16147_002	integer	YES	0	400	%	Efficiency ηdhw
EN16147_003	float(.2)	YES	0	10		COP
EN16147_004	string(255)	YES			h:min	Heating up time
EN16147_005	float(.1)	YES	0	10000	W	Standby power input
EN16147_006	float(.1)	YES	0	100	°C	Reference hot water temperature
EN16147_007	integer	YES	0	10000	l	Mixed water at 40°C

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