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Household appliances interworking -- Part 2: Data structures

Geräte für den Hausgebrauch - Interworking -- Teil 2: Datenstrukturen

Interfonctionnement des appareils électrodomestiques -- Partie 2: Structures des données

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Ta slovenski standard je istoveten z: **EN 50523-2:2009**

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ICS:

97.120	Avtomatske krmilne naprave za dom	Automatic controls for household use
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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 50523-2

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ICS 97.120

English version

Household appliances interworking - Part 2: Data structures

Interfonctionnement
des appareils électrodomestiques -
Partie 2: Structures des données

Geräte für den Hausgebrauch -
Interworking -
Teil 2: Datenstrukturen

This European Standard was approved by CENELEC on 2009-06-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: Avenue Marnix 17, B - 1000 Brussels

Foreword

This European Standard was prepared by the WG 7 of Technical Committee CENELEC TC 59X, Consumer information related to household electrical appliances.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50523-2 on 2009-06-01.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2010-06-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2012-06-01

The Working Group CLC/TC 59X/WG 7, Smart house, was initiated by CECED and installed by the decision of the CLC/TC 59 meeting on 2004-09-14/15.

This Part 2 of EN 50523 defines the message data structures used for communication between household appliances. This part is to be read in conjunction with Part 1 “Functional specification” of this standard. Part 1 defines the interoperability requirements for installation, control and monitoring of household appliances.

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1 Scope

This European Standard specifies the message Data structures used for communication between devices that comply with the Household Appliances Interworking standard. It is a companion document to EN 50523-1, Functional specification.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 50523-1, *Household appliances interworking – Part 1: Functional specification*

3 Terms, definitions and abbreviations

For the purposes of this document, the terms, definitions and abbreviations given in EN 50523-1 apply.

4 Conventions for format

- Byte I is the I-th transmitted byte of the data field. To ease direct reading of data field, big endian is used.

Byte 0	Byte 1	Byte 2	Byte 3	Byte 4
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- If word fields consisting of two bytes are used then, the most significant byte is the first field.

Word	
Byte M	Byte M+1
Most significant byte	Least significant byte

- The format used for signed integer is 2's complement.
- The character set used for a string (array of characters terminated with a null character) is ASCII.

5 Functional Blocks Mapping

5.1 EXECUTE COMMAND

The table below defines the data structures used for all MIDs of the Functional Block EXECUTE COMMAND.

Table 1 – EXECUTE COMMAND MIDs

MID	Data																						
Execution of a Command	<p>Byte 0: Command Identification Value 0 is reserved. Values ranging from 1 to 63 are standardised commands.</p> <table> <tr><td>START</td><td>1</td></tr> <tr><td>STOP</td><td>2</td></tr> <tr><td>PAUSE</td><td>3</td></tr> <tr><td>START SUPERFREEZING</td><td>4</td></tr> <tr><td>STOP SUPERFREEZING</td><td>5</td></tr> <tr><td>START SUPERCOOLING</td><td>6</td></tr> <tr><td>STOP SUPERCOOLING</td><td>7</td></tr> <tr><td>DISABLE GAS</td><td>8</td></tr> <tr><td>ENABLE GAS</td><td>9</td></tr> <tr><td>START SUPERHEATING</td><td>10</td></tr> <tr><td>STOP SUPERHEATING</td><td>11</td></tr> </table> <p>Values ranging from 63 to 127 are non-standardised commands. Values ranging from 128 to 255 are proprietary commands.</p>	START	1	STOP	2	PAUSE	3	START SUPERFREEZING	4	STOP SUPERFREEZING	5	START SUPERCOOLING	6	STOP SUPERCOOLING	7	DISABLE GAS	8	ENABLE GAS	9	START SUPERHEATING	10	STOP SUPERHEATING	11
START	1																						
STOP	2																						
PAUSE	3																						
START SUPERFREEZING	4																						
STOP SUPERFREEZING	5																						
START SUPERCOOLING	6																						
STOP SUPERCOOLING	7																						
DISABLE GAS	8																						
ENABLE GAS	9																						
START SUPERHEATING	10																						
STOP SUPERHEATING	11																						
Washing Parameters	<p>Byte 0: Type of Programme Data Value 0 is reserved. Values ranging from 1 to 63 are standardised types. Values ranging from 64 to 127 are non-standardised types. Values ranging from 128 to 255 are proprietary types. Other bytes: programme data</p>																						
Cooking Parameters	See Washing Parameters above																						
Refrigeration Parameters	See Washing Parameters above																						
Air Conditioning Parameters	See Washing Parameters above																						
Water Heating Parameters	See Washing Parameters above																						
Start Time	<p>Byte 0 Bit 0-5: Minutes ranging from 0 to 59</p> <p>Bit 6-7:</p> <table> <tr><td>RELATIVE</td><td>0</td></tr> <tr><td>ABSOLUTE</td><td>1</td></tr> <tr><td>Reserved</td><td>2</td></tr> <tr><td>Reserved</td><td>3</td></tr> </table> <p>If RELATIVE Byte 1: Hours ranging from 0 to 255 If ABSOLUTE Byte 1: Hours ranging from 0 to 23</p> <p>The value 0xFFFF as well as all invalid absolute values means Not available.</p>	RELATIVE	0	ABSOLUTE	1	Reserved	2	Reserved	3														
RELATIVE	0																						
ABSOLUTE	1																						
Reserved	2																						
Reserved	3																						
Finish Time	See Start Time above																						
Set Temperature	<p>Byte 0: Most significant byte of 2 bytes signed integer providing value ranging from -50 °C to +500 °C. Precision is 1 °C.</p> <p>Byte 1: Least significant byte of 2 bytes signed integer providing value ranging from -50 °C to +500 °C. Precision is 1 °C.</p>																						
Reduction	<p>Byte 0: Values ranging from 0 to 63 are standardised reduction levels. 0: Normal info & alerts 1: All alerts 2: Alerts (Fault & Dangerous category) 3: Alerts (Fault category)</p> <p>Values ranging from 64 to 127 are non-standardised. Values ranging from 128 to 255 are proprietary.</p>																						

5.2 SIGNAL STATE

The table below defines the data structures used for all MIDs of the Functional Block SIGNAL STATE.

Table 2 – SIGNAL STATE MIDs

MID	Data																																												
Device Status	<p>Byte 0: Device Status Value 0 is reserved Values ranging from 1 to 63 are standardised.</p> <table> <tr><td>OFF</td><td>1</td></tr> <tr><td>STAND-BY</td><td>2</td></tr> <tr><td>PROGRAMMED</td><td>3</td></tr> <tr><td>PROGRAMMED WAITING TO START</td><td>4</td></tr> <tr><td>RUNNING</td><td>5</td></tr> <tr><td>PAUSE</td><td>6</td></tr> <tr><td>END PROGRAMMED</td><td>7</td></tr> <tr><td>FAILURE</td><td>8</td></tr> <tr><td>PROGRAMME INTERRUPTED</td><td>9</td></tr> <tr><td>IDLE</td><td>10</td></tr> <tr><td>RINSE HOLD</td><td>11</td></tr> <tr><td>SERVICE</td><td>12</td></tr> <tr><td>SUPERFREEZING</td><td>13</td></tr> <tr><td>SUPERCOOLING</td><td>14</td></tr> <tr><td>SUPERHEATING</td><td>15</td></tr> </table> <p>Values ranging from 64 to 127 are non-standardised. Values ranging from 128 to 255 are proprietary.</p> <p>Byte 1 Bit 0-3: Remote Enable Flags</p> <table> <tr><td>Remote Control is DISABLED</td><td>0</td></tr> <tr><td>Remote Control is enabled in general, but TEMPORARILY LOCKED/DISABLED</td><td>7</td></tr> <tr><td>Remote Control is ENABLED</td><td>F</td></tr> </table> <p>Other values are reserved for future extensions</p> <p>Bit 4-7: Device Status 2 Structure</p> <table> <tr><td>PROPRIETARY</td><td>0</td></tr> <tr><td>PROPRIETARY</td><td>1</td></tr> <tr><td>IRIS SYMPTOM CODE</td><td>2</td></tr> <tr><td>RESERVED</td><td>3 to 15</td></tr> </table> <p>Other bytes: Device Status 2 Non-standardised or Proprietary data. In the case of IRIS Symptom Code, 3 bytes representing the 3 digit encoding (see [1]) possibly complemented with proprietary bytes.</p>	OFF	1	STAND-BY	2	PROGRAMMED	3	PROGRAMMED WAITING TO START	4	RUNNING	5	PAUSE	6	END PROGRAMMED	7	FAILURE	8	PROGRAMME INTERRUPTED	9	IDLE	10	RINSE HOLD	11	SERVICE	12	SUPERFREEZING	13	SUPERCOOLING	14	SUPERHEATING	15	Remote Control is DISABLED	0	Remote Control is enabled in general, but TEMPORARILY LOCKED/DISABLED	7	Remote Control is ENABLED	F	PROPRIETARY	0	PROPRIETARY	1	IRIS SYMPTOM CODE	2	RESERVED	3 to 15
OFF	1																																												
STAND-BY	2																																												
PROGRAMMED	3																																												
PROGRAMMED WAITING TO START	4																																												
RUNNING	5																																												
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FAILURE	8																																												
PROGRAMME INTERRUPTED	9																																												
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Remote Control is DISABLED	0																																												
Remote Control is enabled in general, but TEMPORARILY LOCKED/DISABLED	7																																												
Remote Control is ENABLED	F																																												
PROPRIETARY	0																																												
PROPRIETARY	1																																												
IRIS SYMPTOM CODE	2																																												
RESERVED	3 to 15																																												
Remaining Time	<p>Byte 0: Minutes ranging from 0 to 59</p> <p>Byte 1: Hours ranging from 0 to 23</p>																																												
Washing Parameters	See EXECUTE COMMAND																																												
Cooking Parameters	See EXECUTE COMMAND																																												
Refrigeration Parameters	See EXECUTE COMMAND																																												

Table 2 – SIGNAL STATE MIDs (continued)

MID	Data
Air Conditioning Parameters	See EXECUTE COMMAND
Water Heating Parameters	See EXECUTE COMMAND
Start Time	See EXECUTE COMMAND
Finish Time	See EXECUTE COMMAND
Current phase	Byte 0: PROPRIETARY 1 Other bytes: Non-standardised or proprietary
Set Temperature	See EXECUTE COMMAND
Displayed Temperature	See Set Temperature above
Current Temperature	See Set Temperature above
Reduction	See EXECUTE COMMAND

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