

# H05V-U & H07V-U

Electric cabinet wiring and domestic use.

ACCORDING TO: EN 50525-2-31 / IEC 60227-3

## APPLICATION

H05V-U & H07V-U are single-core solid wires strictly compliant with European EN/IEC standards, primarily designed for fixed installation in low-voltage power and control systems. The smaller cross-section H05V-U (300/500V) is widely used for internal low-current signal connections in lighting fixtures, household appliances, and precision instruments. Meanwhile, the larger cross-section H07V-U (450/750V) is the core choice for main circuit wiring inside industrial control cabinets and distribution boxes, as well as for building installations in conduits and trunking. Its solid copper structure is perfectly optimized for modern screwless push-in terminals.

## CONSTRUCTION

### Conductor

Solid copper conductor, class 1 according to EN 60228 and IEC 60228.

### Insulation








Extra sliding flexible polyvinyl chloride type T11 according to EN 50363-3.

The standard identification of insulated conductors is the following:

Blue	RAL 5012
Brown	RAL 8003
Black	RAL 9005
Red	RAL 3000
Green/Yellow	RAL 6018/1021
Grey	RAL 7000
Dark Blue	RAL 5010
White	RAL 9010
Orange	RAL 2003
Violet	RAL 4005
Pink	RAL 3015

Other colours available on request.

## CHARACTERISTICS

-  **Electrical performance**  
Low voltage 300/500 V · 450/750 V.  
Rated Voltage: H05V-U (up to 1 mm<sup>2</sup>): 300/500 V.  
H07V-U (from 1,5 mm<sup>2</sup> onwards): 450/750 V.
-  **Thermal performance**  
Maximum conductor temperature: 70°C.  
Maximum short-circuit temperature: 160°C (max. 5 s).  
Minimum installation and handling temperature: 5°C.  
Minimum service temperature: -40°C (fixed and protected installations).
-  **Fire performance**  
Flame non-propagation according to EN 60332-1 / IEC 60332-1.  
Reaction to fire CPR: E<sub>ca</sub> according to EN 50575.  
Reduced halogen emission. Chlorine < 15%.
-  **Mechanical performance**  
Minimum bending radius: 5x cable diameter.
-  **Environmental performance**  
Chemical & Oil resistance: Acceptable.
-  **Installation conditions**  
In conduit.
-  **Other**  
Meter by meter marking. (from 10 mm<sup>2</sup> onwards).

## STANDARDS / COMPLIANCE



According to  
EN 50525-2-31 / IEC 60227-3



Standards and approvals  
HAR / AENOR / SEC / RoHS / CE



CPR (Construction Products Regulation)  
E<sub>ca</sub>



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## DIMENSIONS & ADMISSIBLE INTENSITIES



Cross-section (mm <sup>2</sup> )	Diameter (mm)	Weight (kg/km)	In conduit 2 cond. (A) <sup>1</sup>	In conduit 3 cond. (A) <sup>1</sup>	Voltage drop (V/A · km) <sup>2</sup>
1 x 0,50	2,1	9	8	-	93,4
1 x 0,75	2,3	11	11	-	62,4
1 x 1	2,5	14	14	-	46,8
1 x 1,5	2,9	21	17,5	15,5	31,9
1 x 2,5	3,6	33	24	21	19,2
1 x 4	4,1	49	32	28	11,9
1 x 6	4,6	69	41	36	7,92
1 x 10	5,9	115	57	50	4,58
1 x 16	7,0	160	76	68	2,90
1 x 25	8,7	245	101	89	1,87
1 x 35	9,9	335	125	110	1,33
1 x 50	11,8	480	151	134	0,926
1 x 70	13,5	655	192	171	0,653
1 x 95	15,6	865	232	207	0,494
1 x 120	17,3	1.095	269	239	0,386
1 x 150	19,3	1.380	-	275	0,310
1 x 185	21,5	1.675	-	314	0,254
1 x 240	24,5	2.210	-	370	0,192
1 x 300	26,9	2.795	-	430	0,153

<sup>1</sup> Reference method B1 for two and three loaded conductors installed in conduit on a wall according to IEC60364-5-52 in open air at 30°C ambient temperature.

<sup>2</sup> At 70°C conductor temperature, cos φ=1 and single-phase circuit.

## SHORT-CIRCUIT CURRENT-CARRYING CAPACITIES

Time (s)	0,1	0,2	0,3	0,5	1	1,5	2	2,5	3
A/mm <sup>2</sup>	364	257	210	163	115	94	81	73	66

## CORRECTION FACTORS TEMPERATURE

Air T. (°C)	20	25	30	35	40	45	50	55	60
Factor	1,12	1,06	1	0,94	0,87	0,79	0,71	0,61	0,5