

# Category 6<sub>A</sub> U/UTP Reuleaux Cables

Datasheet: GD102398v8

**Brand-Rex** a **LEVITON** company

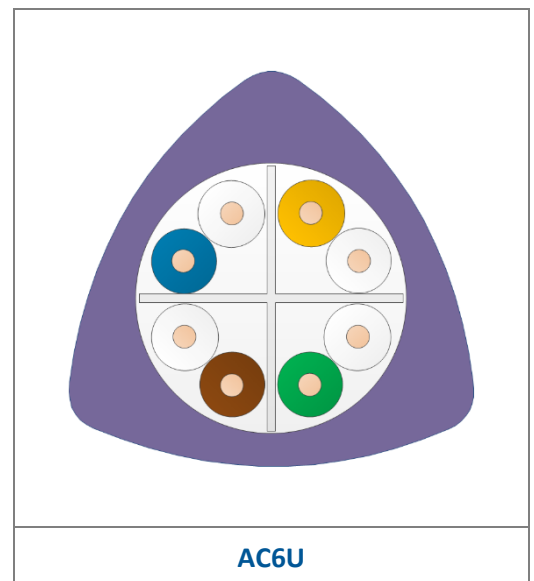
## APPLICATION

Brand-Rex AC6U cables exceed the Category 6<sub>A</sub> performance standards. They are rated to 500MHz and are suitable for use in all Class E<sub>A</sub> structured wiring cable systems.

The U/UTP cable construction combines superior levels of pair balance with an innovative finished cable geometry specially designed to reduce alien crosstalk. AC6U cables support 10 Gigabit Ethernet, Gigabit Ethernet, Power over Ethernet, voice and broadband video transmissions at frequencies up to 500MHz.

## FEATURES AND BENEFITS

- 23 AWG solid annealed copper wire
- 4 unshielded twisted pairs
- Central separator for excellent internal crosstalk performance
- Patented Reuleaux profile – offering superior alien crosstalk performance
- HFFR-LS\* sheath enables cable to meet the requirements of the Construction Products Regulation (CPR) EuroClass E<sub>ca</sub>
- Included in the Leviton and Brand-Rex 25 Year System Warranties when used in conjunction with Leviton or Brand-Rex copper connectivity. System warranties available for qualified projects installed by certified contractors.



## STANDARDS

- Designed and constructed to give optimum electrical performance to the following standards:
  - ISO/IEC 11801 Class E<sub>A</sub>, IEC 61156-5
  - EN50173-1 and EN 50288-11-1
  - ANSI/TIA 568C.2
- Supports 10GBASE-T
- Meets the design requirements of 802.11ac wireless
- Recommended for PoE standards: IEEE 802.3af, 802.3at, Cisco UPoE, and Power over HDBaseT™ (PoH) up to 100 watts, as well as emerging 4 pair PoE standards such as the IEEE 802.3bt, including 90 watts at the powered device (PD)

## FIRE CLASSIFICATION

Material Identifier	HF1	HF3
Material Description	Standard HFFR-LS*	Enhanced HFFR-LS
Single Cable Flame Rating	IEC/EN 60332-1-2	IEC/EN 60332-3-24
Reaction to Fire Classification / EuroClass	Eca	Eca

\* Halogen Free Flame Retardant – Low Smoke

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## PRIMARY ELECTRICAL PARAMETERS

CHARACTERISTIC	SPECIFICATION	TYPICAL PERFORMANCE @ 20°C
Conductor Loop Resistance	Max 19 Ω / 100m	15 Ω / 100m
Conductor Resistance Unbalance	Max 2%	0.1%
Insulation Resistance	>5GΩ.km	>50GΩ.km
Dielectric Strength	2500 Vdc/2secs	Pass

## SECONDARY ELECTRICAL PARAMETERS

CHARACTERISTIC	SPECIFICATION	TYPICAL PERFORMANCE @ 20°C
Velocity of Propagation	<534nsec/100m @ 100MHz	515nsec/100m @ 100MHz
Delay Skew	Max 45nsec/100m @100MHz	17.5nsec/100m @ 100MHz
Mean Characteristic Impedance	100Ω +/- 5Ω @ 100MHz	100Ω ± 3Ω @ 100MHz
Transverse Conversion Loss (TCL)	≥60-10log(f)dB	65dB @ 10MHz

## ELECTRICAL PERFORMANCE

Frequency (MHz)		1	4	10	20	100	200	250	500	550
Insertion Loss (dB/100m)	Standard	2.0	3.7	5.9	8.3	19.0	27.5	31.0	45.3	na
	<i>Typical</i>	<b>2.0</b>	<b>3.6</b>	<b>5.7</b>	<b>8.1</b>	<b>18.5</b>	<b>26.8</b>	<b>30.2</b>	<b>44.1</b>	<b>46.5</b>
NEXT (dB)	Standard	74.3	65.3	59.3	54.8	44.3	39.8	38.3	33.8	na
	<i>Typical</i>	<b>84.3</b>	<b>75.3</b>	<b>69.3</b>	<b>64.8</b>	<b>54.3</b>	<b>49.8</b>	<b>48.3</b>	<b>43.8</b>	<b>43.2</b>
PSNEXT (dB)	Standard	72.3	63.3	57.3	52.8	42.3	37.8	36.3	31.8	na
	<i>Typical</i>	<b>82.3</b>	<b>73.3</b>	<b>67.3</b>	<b>62.8</b>	<b>52.3</b>	<b>47.8</b>	<b>46.3</b>	<b>41.8</b>	<b>41.2</b>
ELFEXT (dB/100m)	Standard	67.8	55.8	47.8	41.8	27.8	21.8	19.8	13.8	na
	<i>Typical</i>	<b>79.8</b>	<b>67.8</b>	<b>59.8</b>	<b>53.8</b>	<b>39.8</b>	<b>33.8</b>	<b>31.8</b>	<b>25.8</b>	<b>25.0</b>
PSELFEXT (dB/100m)	Standard	64.8	52.8	44.8	38.8	24.8	18.8	16.8	10.8	na
	<i>Typical</i>	<b>76.8</b>	<b>64.8</b>	<b>56.8</b>	<b>50.8</b>	<b>36.8</b>	<b>30.8</b>	<b>28.8</b>	<b>22.8</b>	<b>22.0</b>
Return Loss (dB)	Standard	20.0	23.0	25.0	25.0	20.1	18.0	17.3	15.2	na
	<i>Typical</i>	<b>27.0</b>	<b>30.0</b>	<b>32.0</b>	<b>30.0</b>	<b>25.1</b>	<b>23.0</b>	<b>22.3</b>	<b>20.2</b>	<b>19.9</b>
PSANEXT (dB)	Standard	67.0	67.0	67.0	67.0	62.5	58.0	56.5	52.0	na
	<i>Typical</i>	<b>72.0</b>	<b>72.0</b>	<b>72.0</b>	<b>72.0</b>	<b>67.5</b>	<b>63.0</b>	<b>61.5</b>	<b>57.0</b>	<b>56.4</b>
PSAACR-F (dB)	Standard	67.0	66.2	58.2	52.2	38.2	32.2	30.2	24.2	na
	<i>Typical</i>	<b>73.0</b>	<b>72.2</b>	<b>64.2</b>	<b>58.2</b>	<b>44.2</b>	<b>38.2</b>	<b>36.2</b>	<b>30.2</b>	<b>29.4</b>

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## INSTALLATION

Temperature (Installation)	0°C to +50°C	Min Bend Radius (Installation)	8 x Outer Diameter
Temperature (Operation)	-20°C to +75°C	Min Bend Radius (Operation)	4 x Outer Diameter
Max Tensile Load (Installation)	10kg per simplex cable	Field Test NVP Value	0.67
Segregation Class	Class C		

## PRINT LEGEND

Example print legend:

[Length Mark]m BRAND-REX a LEVITON company AC6U-HF1-Eca Cat 6A U/UTP IEC 60332-1-2 EuroClass Eca NVP 0.67  
MADE IN UK [ID number] [Week/Year]

## STANDARD PACKAGING SPECIFICATIONS

Brand-Rex Part Number	Nominal Cable Diameter (mm)	Nominal Cable Weight (kg/km)	Colour *	Reel Size Flange x Width (mm)	Gross Weight (kg/Item)	Items Per Pallet
AC6U-HF1-Eca-500VT <sup>†</sup>	8.8	82.3	Violet	600 x 325	47.2	6
AC6U-HF1-Eca-1000VT <sup>‡</sup>	8.8	82.3	Violet	750 x 405	91.6	2
AC6U-HF3-Eca-500BU <sup>†</sup>	8.8	85.2	Blue	600 x 325	48.6	6
AC6U-HF3-Eca-1000BU <sup>‡</sup>	8.8	85.2	Blue	750 x 405	94.5	2

<sup>†</sup>500 = 500m length

<sup>‡</sup>1000 = 1000m length

\*Also available in a range of non-standard colours

*“Brand-Rex is **dedicated to designing, developing and manufacturing** sustainable **high performance** structured cabling and speciality **cabling solutions**”*

The information contained in this document is valid and correct at the time of issue. Brand-Rex a Leviton Company reserves the right to modify details without notice in light of subsequent standard/specification changes and ongoing technical developments.