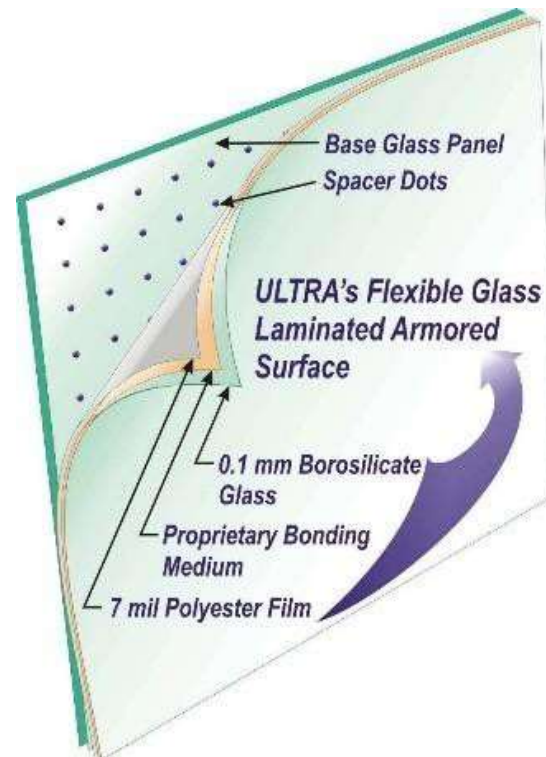


A D Metro

ULTRA and Standard Resistive Sensor Catalog

Version 2.0

Date: August 16, 2023



A D Metro

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ULTRA Resistive Touch Screen Sensors

Patented ULTRA technology is A D Metro's flagship product - a pressure-activated flexible glass touch sensor that provides an enhancement to resistive type sensors and delivers a more durable, reliable, and cost-effective touch sensor. A micro-thin sheet of borosilicate glass is laminated to an indium tin oxide (ITO) coated polyethylene terephthalate (PET) top sheet used in construction of the touch sensor. This increases the durability of the touch sensor, since the resulting flexible glass membrane is waterproof, scratch-resistant and impervious to chemicals, fire, and stylus use. ULTRA is available in 5-wire, 4-wire, and 8-wire touch sensor models.

Key Features:

- Finger / stylus / glove operation
- Waterproof surface & operation
- Chemical resistant
- Scratch resistant
- Hardness 6.5 Mohs
- Over 200 million touches*
- Extended operational temperature range
- 3.5" to 24" sensors

Benefits:

- Longer life cycle
- Less maintenance
- Improved ROI

Applications:

- Military
- Aerospace
- Industrial
- Healthcare
- POS / Kiosks
- Mobile / PDA
- Hospitality

* Applies to 5-wire sensor

As well as the pre-designed resistive sensors listed in this catalog, sensors can be built with custom dimensions, graphics, and coatings. Contact A D Metro for further details.

ULTRA & Resistive Touch Screens Options:

Coatings

- Anti-reflective coating (AR) up to 20"

Chemically Strengthened (CS) Backers

- 1.6mm CS backer glass
- 2.0mm CS backer glass
- 3.0mm CS backer glass

Flex Cable

- 400mm (16") FFC (Latching or non-latching)
- 152mm (6") FFC (Latching or non-latching)
- 204mm (8") FFC (Latching or non-latching)
- 300mm (12") FFC (Latching or non-latching)
- 152mm (6") ZIF

Armor Glass Thickness

- 0.1mm borosilicate microglass
- 0.145mm borosilicate microglass
- 0.2mm borosilicate microglass

Substrate Enhancements

- ITO or micromesh EMI Shielding
- ITO or mesh-based heater

Front and Rear Gasket

- SC41 neoprene gasket (0.8mm and 1.6mm)
- Double-sided adhesive gasket (0.08mm), rear recommended only

4-Wire ULTRA – Most of these parts are also available in standard resistive

A D Metro Part #	Size	Substrate	Overall Area	Viewable Area	Active Area	MG Size	Microglass
AD-5.0-4RU-01C-200	5.0"	1.8mm ITO Glass	126.1mm x 85.4mm	111.0mm x 67.8mm	108.0mm x 64.8mm	117.5mm x 76.8mm	0.1mm
AD-5.0-4RU-02-200	5.0"	1.8mm ITO Glass	89.2mm x 118.7mm	80.9mm x 105.7mm	76.2mm x 101.6mm	85.0mm x 111.0mm	0.1mm
AD-5.0-4RU-03-200	5.0"	1.8mm ITO Glass	126.9mm x 80.2mm	113.9mm x 66.7mm	110.9mm x 63.8mm	122.9mm x 73.2mm	0.1mm
AD-5.7-4RU-01-200	5.7"	1.8mm ITO Glass	144mm x 104.6mm	119.8mm x 91.8mm	116.8mm x 88.8mm	135.0mm x 100.6mm	0.1mm
AD-5.7-4RU-02-205	5.7"	1.8mm CS ITO Glass	139.5mm x 109.5mm	123.5mm x 93.5mm	113.0mm x 84.2mm	131.5mm x 105.5mm	0.1mm
AD-5.7-4RU-03-200	5.7"	6mm CS Glass	169.2mm x 140.4mm	119.2mm x 90.4mm	115.2mm x 86.4mm	160.2mm x 136.4mm	0.1mm
AD-5.7-4RU-KWL-200	5.7"	1.8mm ITO Glass	141.0mm x 104.6mm	123.5mm x 93.5mm	115.2mm x 86.4mm	137.5mm x 101.0mm	0.1mm
AD-5.7-4RU-KWL-220	5.7"	2.8mm ITO Glass	141.0mm x 104.6mm	123.5mm x 93.5mm	115.2mm x 86.4mm	137.5mm x 101.0mm	0.1mm
AD-6.5-4RU-200	6.5"	1.1mm CS Glass	146.3mm x 114.6mm	133.4mm x 100.3mm	132.1mm x 99.1mm	142.0mm x 110.5mm	0.1mm
AD-7.0-4RU-TR-205	7.0"	2.8mm ITO Glass	111.0mm x 170.0mm	94.5mm x 155.5mm	91.44mm x 152.4mm	104.0mm x 166.0mm	0.1mm
AD-7.0-4RU-TRV-200	7.0"	2.8mm ITO Glass	111.0mm x 170.0mm	94.5mm x 155.5mm	91.44mm x 152.4mm	104.0mm x 166.0mm	0.1mm
AD-7.0-4RU-03-C05	7.0"	2.8mm ITO Glass	201.0mm x 114.5mm	152.4mm x 91.4mm	152.4mm x 91.4mm	192.0mm x 110.5mm	0.1mm
AD-8.4-4RU-KWL-100	8.4"	1.8mm ITO Glass	187.1mm x 141.7mm	173.7mm x 130.3mm	170.4mm x 127.8mm	183.0mm x 138.0mm	0.1mm
AD-8.4-4RU-ROS-200	8.4"	1.8mm ITO Glass	188.9mm x 145.6mm	174.6mm x 132.1mm	170.4mm x 127.8mm	183.0mm x 142.5mm	0.1mm
AD-10.4-4RU-01-200	10.4"	2.8mm ITO Glass	248.9mm x 186.7mm	219.9mm x 167.8mm	215.9mm x 163.8mm	239.4mm x 181.7mm	0.1mm
AD-10.4-4RU-02-200	10.4"	1.8mm ITO Glass	225.4mm x 174mm	214mm x 161.2mm	212mm x 159.2mm	218.4mm x 170.0mm	0.1mm
AD-10.4-4RU-03A-200	10.4"	2.8mm ITO Glass	233.4mm x 183.8	216.4mm x 162.8mm	211.4mm x 158.8mm	230.4mm x 177.3mm	0.1mm
AD-10.4-4RU-03A-201	10.4"	2.8mm ITO Glass	233.4mm x 183.8	216.4mm x 162.8mm	211.4mm x 158.8mm	230.4mm x 177.3mm	0.2mm
AD-12.1-4RU-03-200	12.1"	1.8mm ITO Glass	261.0mm x 199.0mm	249.5mm x 188.5mm	245.0mm x 183.5mm	254.0mm x 195.0mm	0.1mm
AD-12.1-4RU-ITX-200	12.1"	2.8mm ITO Glass	263.0mm x 203.5mm	251.0mm x 189.5mm	247.0mm x 185.5mm	259.0mm x 199.5mm	0.1mm
AD-12.1-4RU-ITX-201	12.1"	2.8mm ITO Glass	263.0mm x 203.5mm	251.0mm x 189.5mm	247.0mm x 185.5mm	259.0mm x 199.5mm	0.2mm
AD-12.1-4RU-ITX-20C	12.1"	2.8mm ITO Glass	263.0mm x 203.5mm	251.0mm x 189.5mm	247.0mm x 185.5mm	259.0mm x 199.5mm	0.145mm AR
AD-12.1-4RU-ITX-403	12.1"	2.8mm ITO Glass	263.0mm x 203.5mm	251.0mm x 189.5mm	247.0mm x 185.5mm	259.0mm x 199.5mm	0.1mm AR
AD-15.0-4RU-200	15.0"	1.8mm ITO Glass	333.5mm x 249.5mm	311.1mm x 235.1mm	307.1mm x 231.1mm	326.0mm x 244.0mm	0.1mm
AD-15.1-4RU-ITX-110	15.1"	2.8mm ITO Glass	344.9mm x 248.9mm	307.9mm x 231.9mm	307.1mm x 231.1mm	314.5mm x 239.8mm	0.2mm

5-Wire ULTRA – Most of these parts are also available in standard resistive

A D Metro Part #	Size	Substrate	Overall Area	Viewable Area	Active Area	MG Size	Microglass
AD-5.7-5RU-01-205	5.7"	1.8mm ITO Glass	135mm x 104.6mm	121.2mm x 92.2mm	117.2mm x 88.1mm	128.0mm x 100.6mm	0.1mm
AD-5.7-5RU-01-208	5.7"	1.8mm ITO Glass	135mm x 104.6mm	121.2mm x 92.2mm	117.2mm x 88.1mm	128.0mm x 100.6mm	0.1mm AR
AD-5.7-5RU-PL1-A00	5.7"	1.8mm ITO Glass	133.7mm x 104.7mm	121.4mm x 91.7mm	115.2mm x 86.4mm	125.7mm x 100.7mm	0.1mm
AD-6.5-5RU-01-200	6.5"	1.1mm ITO Glass	152.0mm x 118.0mm	136.0mm x 103.0mm	132.0mm x 99.0mm	145.0mm x 114.0mm	0.1mm
AD-6.5-5RU-02-20C	6.5"	1.1mm ITO Glass	152.0mm x 118.0mm	136.0mm x 103.0mm	132.0mm x 99.0mm	144.0mm x 110.0mm	0.145mm AR
AD-6.5-5RU-220	6.5"	1.8mm ITO Glass	149.6mm x 120.4mm	137.4mm x 104.7mm	131.6mm x 98.9mm	145.6mm x 111.4mm	0.1mm
AD-6.5-5RU-A01	6.5"	1.8mm ITO Glass	149.6mm x 120.4mm	137.4mm x 104.7mm	131.6mm x 98.9mm	145.6mm x 111.4mm	0.2mm
6U507009	7.0"	1.85mm ITO Glass	165.0mm X 104.0mm	154.3mm x 93.3mm	152.4mm x 91.4mm	157.5mm x 101.0mm	0.1mm
6U507019	7.0"	1.1mm ITO Glass	164.5mm x 99.5mm	155.9mm x 88.4mm	154.1mm x 86.6mm	157.5mm x 101.0mm	0.1mm
AD-7.0-5RU-01-200	7.0"	1.8mm ITO Glass	155.0mm x 119.2mm	144.6mm x 109.2mm	141.6mm x 106.2mm	151.0mm x 112.2mm	0.1mm
6U508009	8.0"	1.85mm ITO Glass	182.6mm x 140.8mm	167.8mm x 127.0mm	164.8mm x 123.0mm	176.6mm x 136.8mm	0.1mm
AD-8.4-5RU-01-200	8.4"	1.8mm ITO Glass	182.0mm x 142.0mm	172.72mm x 130mm	170.72mm x 127mm	178.0mm x 134.0mm	0.1mm
AD-8.4-5RU-01-20C6	8.4"	1.8mm ITO Glass	182.0mm x 142.0mm	172.72mm x 130mm	170.72mm x 127mm	178.0mm x 134.0mm	0.145mm AR
6U508900	8.9"	1.1mm CS ITO Glass	213.2mm x 129.4mm	199.3mm x 118.8mm	195.1mm x 114.3mm	204.7mm x 124.4mm	0.1mm
6U509009	9.0"	1.1mm ITO Glass	213.4mm x 129.6mm	198.9mm x 115.9mm	196.1mm x 113.1mm	205.0mm x 125.0mm	0.1mm
6U510109	10.1"	1.1mm ITO Glass	231.3mm x 150.1mm	220.6mm x 138.8mm	216.9mm x 135.6mm	227.3mm x 142.1mm	0.1mm
6U510119	10.1"	1.1mm ITO Glass	235.0mm x 143.0mm	226.3mm x 128.3mm	223.7mm x 126.3mm	231.0mm x 135.0mm	0.1mm
6U510219	10.2"	1.85mm ITO Glass	235.6mm x 147.6mm	225.2mm x 136.3mm	222.0mm x 133.2mm	231.6mm x 139.6mm	0.1mm
6U510419	10.4"	1.85mm ITO Glass	225.4mm x 173.2mm	213.8mm x 162.8mm	211.3mm x 158.8mm	217.4mm x 169.2mm	0.1mm
AD-12.1-5RU-PVO-200	12.1"	1.8mm ITO Glass	266.4mm x 204.9mm	250.0mm x 188.5mm	247.0mm x 185.0mm	262.4mm x 196.9mm	0.1mm
6U512109	12.1"	1.85mm ITO Glass	261.8mm x 199.8mm	249.6mm x 188.3mm	246.8mm x 185.5mm	253.8mm x 195.8mm	0.1mm
AD-13.3-5RU-AX-100	13.3"	1.1mm ITO Glass	304.0mm x 195.0mm	291.0mm x 183.0mm	288.0mm x 180.0mm	295.0mm x 189.0mm	0.1mm
6U514109	14.1"	1.85mm ITO Glass	314.3mm x 241.3mm	288.8mm x 216.4mm	285.8mm x 213.4mm	304.3mm x 237.3mm	0.1mm
AD-15.0-5RU-01-100	15.0"	1.8mm ITO Glass	322.0mm x 245.5mm	309.5mm x 233.5mm	303.5mm x 227.5mm	315.0mm x 242.0mm	0.1mm
6U515009	15.0"	2.85mm ITO Glass	332.9mm x 248.9mm	310.9mm x 234.9mm	304.6mm x 228.6mm	322.9mm x 244.9mm	0.1mm

5-Wire ULTRA (continued)

A D Metro Part #	Size	Substrate	Overall Area	Viewable Area	Active Area	MG Size	Microglass
6U515019	15.0"	1.85mm ITO Glass	322.0mm x 245.5mm	309.3mm x 233.3mm	303.5mm x 227.5mm	315.0mm x 242.0mm	0.1mm
6U515401	15.4"	1.85mm ITO Glass	345.0mm x 224.0mm	334.80mm x 210.8mm	331.0mm x 207.0mm	341.0mm x 215.0mm	0.1mm
6U515401-AR04	15.4"	1.85mm ITO Glass	345.0mm x 224.0mm	334.80mm x 210.8mm	331.0mm x 207.0mm	341.0mm x 215.0mm	0.145mm AR
6U515601	15.6"	1.85mm ITO Glass	363.8mm x 215.9mm	347.30mm x 196.6mm	344.2mm x 193.5mm	359.8mm x 206.9mm	0.1mm
6U515613	15.6"	2.85mm ITO Glass	363.8mm x 215.9mm	347.30mm x 196.6mm	344.2mm x 193.5mm	359.8mm x 206.9mm	0.1mm
AD-17.0-5RU-01-20A3	17.0"	1.8mm ITO Glass	390.8mm x 252.8mm	369.0mm x 231.8mm	365.8mm x 228.6mm	384.8mm x 241.8mm	0.145mm
AD-17.0-5RU-02-200	17.0"	2.85mm ITO Glass	365.4mm x 290.2mm	343.0mm x 275.4mm	340.0mm x 272.4mm	350.0mm x 281.0mm	0.1mm
6U517009	17.0"	1.85mm ITO Glass	356.0mm x 286.5mm	343.00mm x 275.5mm	337.0mm x 269.5mm	347.0mm x 281.5mm	0.1mm
6U517301	17.3"	1.85mm ITO Glass	398.1mm x 232.8mm	385.3mm x 218.1mm	382.1mm x 214.9mm	393.1mm x 224.3mm	0.1mm
6U517309-AR04	17.3"	1.85mm ITO Glass	398.1mm x 232.8mm	385.3mm x 218.1mm	382.1mm x 214.9mm	393.1mm x 224.3mm	0.145mm AR
6U518509	18.5"	1.85mm ITO Glass	429.4mm x 253.6mm	413.2mm x 233.8mm	409.8mm x 230.4mm	425.4mm x 244.6mm	0.1mm
1U519000	19.0"	2.8mm ITO Glass	406.3mm x 323.4mm	389.0mm x 308.9mm	380.9mm x 305.6mm	392.0mm x 316.0mm	0.1mm
6U519003	19.0"	2.85mm ITO Glass	393.4mm x 316.7mm	380.7mm x 305.5mm	377.3mm x 302.1mm	385.0mm x 312.0mm	0.1mm
6U519008-AR04	19.0"	2.85mm ITO Glass	393.4mm x 316.7mm	380.7mm x 305.5mm	377.3mm x 302.1mm	385.0mm x 312.0mm	0.145mm AR
6U521309-A03	20.1"	2.85mm ITO Glass	431.2mm x 329.5mm	412.0mm x 312.0mm	408.0mm x 306.0mm	418.2mm x 321.5mm	0.1mm
1U5201103-G	21.3"	2.85mm ITO Glass	454.0mm x 344.0mm	438.0mm x 330.0mm	432.0mm x 324.0mm	446.0mm x 340.0mm	0.145mm
AD-21.5-5R-01-200	21.5"	2.8mm ITO Glass	494.6mm x 291.2mm	480.6mm x 272.1mm	477.2mm x 268.7mm	486.0mm x 286.0mm	0.2mm
AD-22.0-5RU-203	22.0"	2.8mm ITO Glass	493.7mm x 320.1mm	477.7mm x 300.1mm	473.8mm x 296.1mm	482.7mm x 310.1mm	0.145mm
AD-22.0-5RU-466	22.0"	2.8mm ITO Glass	493.7mm x 320.1mm	477.7mm x 300.1mm	473.8mm x 296.1mm	482.7mm x 310.1mm	0.2mm

8-Wire ULTRA – Most of these parts are also available in standard resistive

A D Metro Part #	Size	Substrate	Overall Area	Viewable Area	Active Area	MG Size	Microglass
AD-10.4-8RU-01-200	10.4"	1.8mm ITO Glass	230.0mm x 175.2mm	214.5mm x 161.9mm	211.1mm x 158.5mm	169.2mm x 222.0mm	0.1mm
AD-10.4-8RU-ROS-200	10.4"	1.8mm ITO Glass	230.0mm x 175.2mm	214.5mm x 161.9mm	211.1mm x 158.5mm	172.0mm x 227.0mm	0.1mm

4-Wire Standard Resistive (non-armored) – Most of these parts are also available in ULTRA resistive

A D Metro Part #	Size	Substrate	Overall Area	Viewable Area	Active Area
AD-5.7-4R-ITX-100	5.7"	1.1mm ITO Glass	144.0mm x 104.6mm	119.2mm x 90.4 mm	117.2mm x 88.4mm
AD-6.5-4R-DP-100	6.5"	1.6mm CS Glass	182.0mm x 81.43mm	162.3mm x 66.2mm	150.6mm x 54.5mm
AD-6.5-4RU-100B	6.5"	1.1mm CS Glass	146.3mm x 114.6mm	133.4mm x 100.3mm	132.1mm x 99.1mm
AD-7.6-4R-DP-100	7.6"	1.6mm CS Glass	183.1mm x 130.5mm	166.9mm x 118.1mm	155.3mm x 106.4mm
AD-10.4-4R-100	10.4"	1.8mm ITO Glass	237.0mm x 180.0mm	216.2mm x 163.4mm	213mm x 160.2mm
AD-15.0-4R-FRE-100	15.0"	2.8mm ITO Glass	319.5mm x 249.0mm	309mm x 233mm	305mm x 229mm
AD-15.1-4R-01-100	15.1"	4.5mm EMI Glass	338.5mm x 254.5mm	311.1mm x 235.1mm	307.1mm x 231.1mm
AD-15.1-4R-02A-550	15.1"	3.0mm Hard Coated Polycarbonate	347.6mm x 231.3mm	319.6mm x 256.6mm	307.4mm x 284.6mm

5-Wire Standard Resistive (non-armored) – Most of these parts are also available in ULTRA resistive

A D Metro Part #	Size	Substrate	Overall Area	Viewable Area	Active Area
AD-3.5-5R-PS-910	3.5"	1.8mm ITO Glass	65.3mm x 89.5mm	-	56.2mm x 74.9mm
AD-5.0-5R-BRS-100	5.0"	1.8mm ITO Glass	118.7mm x 89.2mm	105.65mm x 80.2mm	101.6 mm x 76.2 mm
AD-6.5-5R-PS-RevD	6.5"	1.8mm CS Glass	149.6mm x 120.4mm	135.6mm x 102.9mm	132.5mm x 98.9mm
6R507009	7.0"	1.85mm ITO Glass	165mm x 104mm	154.3mm x 93.34mm	152.4mm x 91.44mm
AD-7.0-5R-DD-100	7.0"	1.1mm ITO Glass	170.1mm x 106.3mm	158mm x 94.6mm	154.4mm x 92.1mm
6R508009	8.0"	1.85mm ITO Glass	182.6mm x 140.8mm	167.8mm x 127mm	164.8mm x 123mm
AD-10.4-5R-01-100	10.4"	1.8mm ITO Glass	229.9mm x 175.2mm	214.5mm x 161.9mm	211.1mm x 158.5mm
AD-10.4-5R-100	10.4"	1.8mm ITO Glass	248.9mm x 186.7mm	219.9mm x 167.8mm	215.9mm x 163.8mm
6R510400	10.4"	1.85mm ITO Glass	228.7 x 173.4mm	215.4mm x 162.6mm	211.6mm x 158.8mm
6R512109	12.1"	1.85mm ITO Glass	261.8mm x 199.8mm	249.6mm x 188.3mm	246.8mm x 185.5mm
AD-12.1-5R-100	12.1"	1.8mm ITO Glass	270.8mm x 205.2mm	248.0mm x 186.5mm	248.0mm x 186.5mm
AD-15.0-5R-105B	15.0"	2.8mm ITO Glass	338.2mm x 246.9mm	307.2mm x 231.1mm	305.2mm x 229.1mm
6R515009	15.0"	2.85mm ITO Glass	332.9mm x 248.9mm	310.9mm x 234.9mm	304.6mm x 228.6mm
1R515609	15.6"	1.85mm ITO Glass	359.3mm x 209.5mm	347.9mm x 196.9mm	344.2mm x 193.5mm
1R518509	18.5"	2.8mm ITO Glass	424mm x 243.7mm	410.8mm x 231.4mm	409.8mm x 230.4mm
6R518509	18.5"	1.85mm ITO Glass	429.4mm x 253.6mm	413.2mm x 233.8mm	409.8mm x 230.4mm
6R518519	18.5"	1.85mm ITO Glass	430.4mm x 254.6mm	416.2mm x 236.8mm	411mm x 231.6mm
AD-21.5-5R-01-100	21.5"	2.8mm ITO Glass	494.6mm x 291.2mm	480.6mm x 272.1mm	477.24mm x 268.7mm
6R521609	21.6"	2.85mm ITO Glass	496.5mm x 292.2mm	481.3mm x 272.4mm	477.5mm x 268.6mm
1R523009	23.0"	1.8mm ITO Glass	532.8mm x 311.3mm	513.8mm x 291mm	509.8mm x 286.7mm
1R524119	24.0"	2.8mm ITO Glass	546.4mm x 352mm	522.4mm x 328mm	518.4mm x 324mm

8-Wire Standard Resistive (non-armored) – This part is also available in ULTRA resistive

A D Metro Part #	Size	Substrate	Overall Area	Viewable Area	Active Area
AD-19.0-8R-01-100	19.0"	1.8mm CS Glass	392.3mm x 321.1mm	378.3mm x 303.1mm	376.3mm x 301mm