

Adaptive USB-C 3.2 Gen2 Active Optical Cable

5M (16 ft.)

4-Lane DP 2.1 | USB 3.2 10Gbps | PD 60W | Adaptive Mode | 3-Year Warranty

MPN: CBL-AOCUSBC-05M



1 PRODUCT OVERVIEW

DESIGNED FOR

Professional AV integrators, enterprise IT teams, and systems designers deploying USB-C infrastructure for BYOD conference rooms, docking stations, digital signage, VR/AR rigs, and long-run display connectivity where copper USB-C cables cannot reach.

THE CHALLENGE

Standard copper USB-C cables max out at 1–2m for full-featured operation (DP Alt Mode + USB 3.2 + PD simultaneously). Active copper repeaters require external power and cannot support all three functions concurrently. No single-cable solution existed for full-featured USB-C over 5–15m — until AOC.

THE KANEXPRO ADVANTAGE

KanexPro's adaptive AOC USB-C cable is the only solution that delivers full-featured USB-C — DP 2.1 or USB 3.2 10Gbps + PD 60W simultaneously — at 5, 10, or 15M with no external power, no firmware, and EMI-immune GGP fiber construction. The embedded switching chip auto-selects the optimal lane mode.

2 PRODUCT POSITIONING

The CBL-AOCUSBC series is the plug-and-play full-featured USB-C cable for integrators who need DP video, USB 3.2 data, and PD charging delivered simultaneously over 5–15 meter runs without copper limitations or active repeaters.

3 APPLICATIONS



BYOD Conference Rooms

Extend a laptop's USB-C port to a room display and charging pad up to 15m — single cable delivers video, data, and 60W PD charging simultaneously.



Docking Station Long Runs

Connect a USB-C dock at an AV rack to a workstation up to 15m away with full USB 3.2 10Gbps data, DP video output, and PD charging over one AOC cable.



Digital Signage & Kiosks

Drive high-resolution displays from locked media players mounted remotely — USB-C AOC eliminates copper cable limits for 4K DP 2.1 signage runs.



VR/AR & Industrial Vision

4-lane DP 2.1 mode supports VR headsets, AR rigs, and industrial vision cameras requiring sustained 10Gbps+ data throughput over extended cable lengths.



Education & Classroom AV

Presenters can connect from any USB-C laptop to the room display from anywhere in the classroom — up to 15m with no dongles or wireless latency.



Visualization & Simulation

Run USB-C peripherals from engineering workstations to remote test benches with full 10Gbps USB 3.2 data and display output.

4 WHO THIS IS FOR

AV Integrators

Enterprise IT

Education

VR/AR

Digital Signage

Industrial

Ideal User

AV integrator or enterprise IT lead specifying USB-C docking, conferencing, or display infrastructure for corporate offices, education, or specialized AV environments.

Project Types

Corporate AV (BYOD conference rooms, hot-desking), Education, Broadcast/Production, VR/AR, Industrial Vision, Digital Signage.

Typical Buyer

AV Project Engineer, IT Director, or Facilities Manager specifying USB-C cable infrastructure BOM.

5 KANEXPRO PRODUCT COMPARISON

The CBL-AOCUSBC family covers 5M, 10M, and 15M — same adaptive full-featured USB-C performance, scaled to room size. All carry KanexPro's 3-year warranty.

MODEL	BEST FOR	KEY CAPABILITY	HOW IT DIFFERS
CBL-AOCUSBC-05M ◀ This SKU	Full-featured USB-C AOC	5M (16 ft.) • DP 2.1 • USB 3.2 • PD 60W	Choose by run length
CBL-AOCUSBC-10M	Full-featured USB-C AOC	10M (33 ft.) • DP 2.1 • USB 3.2 • PD 60W	Choose by run length
CBL-AOCUSBC-15M	Full-featured USB-C AOC	15M (49 ft.) • DP 2.1 • USB 3.2 • PD 60W	Choose by run length

► Select CBL-AOCUSBC-05M for 5M (16 ft.) runs.

Q: Can the cable carry video, USB data, and charging at the same time?

Yes — in 2-lane mode, the cable simultaneously delivers DP 1.4 video output, USB 3.2 Gen2 10Gbps data, and PD 60W charging over a single cable. In 4-lane mode, it delivers DP 2.1 video and PD 60W, with USB operating at USB 2.0 speeds.

Q: How does the adaptive mode work? Do I need to configure anything?

No configuration required. An embedded switching chip in the cable automatically detects the connected devices and selects 2-lane (DP 1.4 + USB 3.2 10Gbps) or 4-lane (DP 2.1 + USB 2.0) mode based on what the host and display negotiate. Fully plug-and-play.

Q: Why is USB-C AOC so much more expensive than a copper cable?

Copper USB-C cables fail at 1–2m for full-featured operation. Beyond that you need active repeaters (\$100–\$300+) plus external power supplies — which still can't match AOC signal integrity. At 5–15M, AOC is the only single-cable solution that delivers all three functions reliably.

Q: What display resolutions are supported?

In 4-lane DP 2.1 mode: up to 8K@60Hz or 4K@144Hz. In 2-lane DP 1.4 mode: up to 4K@60Hz (HBR3). Resolution depends on the source GPU and display capability — the cable supports the full spec of both DP 2.1 and DP 1.4.

Q: Does it work with Thunderbolt 3 or Thunderbolt 4 ports?

The cable supports USB-C 3.2 Gen2 and DP Alt Mode, which is compatible with Thunderbolt 3/4 ports for video and USB functions. Full Thunderbolt protocol (PCIe tunneling) over AOC is not supported — but display output, USB 3.2 data, and PD charging all function correctly.

Q: How flexible is the cable for installation?

GGP (Glass-coated Graded-index Polymer) fiber enables a 2mm static bend radius and 20mm dynamic bend radius — significantly more flexible than standard optical fiber. The 6.5mm OD cable can be routed through tight conduit runs and around corners without signal degradation.

Q: What is the PD charging specification?

PD 60W maximum — 20V at 3A. This is sufficient to charge most laptops at full speed (MacBook Air, Dell XPS 13, ThinkPad X1 Carbon, etc.). Higher-wattage laptops (100W+) will charge at 60W, which may be slower than their maximum rate.