सीमाशुल्क अग्रिम विनिर्णय प्राधिकरण
**Customs Authority for Advance Rulings**
नवीन सीमाशुल्क भवन, बेलार्ड इस्टेट, मुंबई - ४००००१
**New Custom House, Ballard Estate, Mumbai - 400 001**
**E-MAIL: cus-advrulings.mum@gov.in**

F.No. CAAR/CUS/APPL/161/2025-O/o Commr-CAAR-Mumbai दिनांक/Date : 08.12.2025

| | |
|---|---|
| Ruling No. & date | CAAR/Mum/ARC/117/2025-26 dated 08.12.2025 |
| Issued by | Shri Prabhat K. Rameshwaram,<br>Customs Authority for Advance Rulings, Mumbai |
| Name and address of the applicant | Keyence India Private Limited.<br>Olympia Cyberspace, 10th Floor-Office No-1, No.21/22, Alandur Road, Guindy, Chennai - 600032, Tamil Nadu, India<br>{Email: sk@keyence.co.in } |
| Concerned Commissionerate | The Pr. Commissioner of Customs (Air Cargo),<br>New Custom House, Chennai-VII Commissionerate,<br>Air Cargo Complex, Meenambakkam, Chennai- 600016 |

ध्यान दीजिए/ **N.B.:**

1. सीमाशुल्क अधिनियम, 1962 की धारा 28I की उप-धारा (2) के तहत किए गए इस आदेश की एक प्रति संबंधित को निःशुल्क प्रदान की जाती है।

   A copy of this order made under sub-section (2) of Section 28-I of the Customs Act, 1962 is granted to the concerned free of charge.

2. इस अग्रिम विनिर्णय आदेश के खिलाफ कोई भी अपील ऐसे निर्णय या आदेश के संचार की तारीख से 60 दिनों के भीतर संबंधित क्षेत्राधिकार के उच्च न्यायालय के समक्ष की जाएगी।

   Any appeal against this Advance Ruling order shall lie before the **High Court of concerned jurisdiction**, within 60 days from the date of the communication of such ruling or order.

3. धारा 28-I के तहत प्राधिकरण द्वारा सुनाया गया अग्रिम विनिर्णय तीन साल तक या कानून या तथ्यों में बदलाव होने तक, जिसके आधार पर अग्रिम विनिर्णय सुनाया गया है, वैध रहेगा, जो भी पहले हो।

   The advance ruling pronounced by the Authority under Section 28 - I shall remain valid for three years or till there is a change in law or facts on the basis of which the advance ruling has been pronounced, whichever is earlier.

4. जहां प्राधिकरण को पता चलता है कि आवेदक द्वारा अग्रिम विनिर्णय धोखाधड़ी या तथ्यों की गलत बयानी द्वारा प्राप्त किया गया था, उसे शुरू से ही अमान्य घोषित कर दिया जाएगा।

   Where the Authority finds that the advance ruling was obtained by the applicant by fraud or misrepresentation of facts, the same shall be declared void *ab initio*.



सीमाशुल्क अग्रिम विनिर्णय प्राधिकरण, मुंबई
Customs Authority For Advance Rulings, Mumbai

## अग्रिम विनिर्णय / Advance Ruling

Keyence India Private Limited (having IEC No. AAECK4385P) and hereinafter referred to as 'the applicant'/ "KIPL", in short) filed application (CAAR-1) for advance ruling before the Customs Authority for Advance Rulings, Mumbai (CAAR in short). The said application was received in the secretariat of the CAAR, Mumbai on 19.09.2025 along with enclosures in terms of Section 28H (1) of the Customs Act, 1962 (hereinafter referred to as the 'Act' also). The applicant is seeking advance ruling on the classification for import of 'IV3-500MA Smart Vision Sensor' in India for further sale. It is further stated that no processing whatsoever would be carried out on the imported goods, post importation into India.

1.2 Keyence Corporation, headquartered in Japan, is engaged in the development and manufacturing of advanced equipment for factory automation. Its product portfolio includes a wide range of industrial automation and inspection solutions, such as sensors, measuring instruments, vision systems, barcode readers, laser markers, and digital microscopes.

## 2. Description & Usage of IV3-500MA Smart Vision Sensor

2.1 IV3-500MA Smart Vision Sensor (Vision Sensor' / 'Product') is an advanced smart vision sensor designed to perform high-precision presence detection, inspection, and differentiation tasks in industrial and manufacturing environments. Leveraging AI-based imaging and detection technologies, the Vision Sensor simplifies complex visual inspection processes, ensuring high accuracy and operational efficiency.

2.2 The product is operated using either the IV3 series control panel (IV3-CP50) or a PC equipped with the dedicated software IV3-Navigator (IV3-H1). It enables users to easily configure complex detection operations, such as identifying part shapes that would otherwise require a photoelectric switch. Operation settings must be configured through the control panel or the IV3-Navigator software. Sensors are connected via Ethernet, allowing for seamless integration and communication with multiple units. An image of the IV3-500MA vision sensor is provided below for ease of reference.

2.3 The predominant functional features of the Product have been outlined in the Product catalogue to include the following:

✓ AI-Based Imaging

- Automatically optimizes illumination, exposure, and flash settings.
- Selects optimal images from over 1,000 imaging conditions.
- Evaluates images based on colour, shape, and speed for enhanced detection accuracy.

✓ AI-Based Detection

- Learns from both acceptable (OK) and defective (NG) product samples.
- Detects subtle variations in colour, shape, edges, and patterns.
- Maintains detection stability under varying lighting and surface conditions.

✓ High-Performance Hardware

- Equipped with a megapixel camera offering up to 4× resolution compared to conventional models
- Supports ultra-wide field of view (up to 1822 × 1364 mm)
- Features digital zoom and high-speed program switching for multi-point inspections

✓ Compact and Flexible Design

- Small form factor (59.6 × 45.3 × 111.19 mm) with rotating connectors (up to 330°) for space-constrained installations
- IP67-rated for dust and water resistance, suitable for harsh industrial environments

✓ Integrated Illumination

- Built-in and external white/infrared LED lighting
- Automatic lighting control across 1,000+ conditions
- Power over Ethernet (PoE) support for simplified wiring

2.4 The following detection tools are used that perform the corresponding functions as listed below:

(i) Standard Tools: Width, Diameter, Edge Presence, Pitch, OCR, Colour/Brightness Prohibit

(ii) Advanced Tools: Blob Count, Learning Mode, Multi-Position Adjustment

(iii) OCR Capabilities: Reads text, numbers, and dates even on curved or misaligned surfaces

2.5 In addition to the above, the Vision Sensor also has certain connectivity features such as:

✓ Supports Ethernet (1000BASE-T), PoE, FTP/SFTP

✓ Compatible with industrial protocols including EtherNet/IP™, PROFINET, CC-Link, Device Net, and RS-232C

✓ Enables remote monitoring via PC, smartphone, or tablet

2.6 The process flow of the functioning of Product has been outlined below for reference;

i. **Step 1 - Trigger input:** The process begins with the trigger input, which serves as the signal to initiate the imaging operation. The product can receive trigger input from and by synchronizing to the target position from an external device such as photoelectric switch or PLC. Also, the trigger can be generated internally by the Product at a regular interval with the internal trigger function.

ii. **Step 2 - Imaging:** The built-in light is used to obtain an image of the target with the CMOS image sensor. The BUSY output function turns ON.

iii. **Step 3 - Tool processing:** After the image is captured, the system performs image analysis and judgment using built-in AI tools. This step can operate in two distinct modes:

a. Standard mode: According to the settings of a detection tool, the image of the target is scanned for detecting whether a target is high or low quality. In addition, misaligned positions of the target can be corrected by using the position adjustment tool. Up to 65 tools can be set.

b. Sorting mode: Registers multiple varieties and judges which part type the target matches with. Up to 8-part types can be registered. Up to 8 detection tools can be set. Misaligned positions of the target can be corrected by using the position adjustment tool.

After the detection process is completed, the BUSY output function turns OFF.

Iv **Step 4 - Status output:** Based on the results of the tool processing step, the system generates output signals to communicate the inspection outcome:

a. In Standard Mode, if the image passes all configured checks, the total status OK output is turned ON.

If the image fails any of the checks, the system activates the total status NG output, indicating a non-conforming product.

b. In Sorting Mode, the system activates the output corresponding to the matched part type. The output where the matching part type is assigned is ON.

v. **Step 5 – Save images:** The captured images are saved for record-keeping or further analysis. The system can store up to 100 images in its internal image history memory. Users can configure the system to save images based on specific conditions:

c. NG Only: Save only images that failed inspection.

d. NG/Near Threshold OK: Save images that either failed or were close to failing.

e. All: Save all images

Additionally, the system supports data transfer functions, allowing images and inspection results to be exported to SD or FTP/SFTP servers.

2.7 The Product has applications in various industries such as:

✓ Manufacturing & Assembly: Component presence/orientation checks, assembly verification, label/date inspection.

✓ Food & Beverage: Bottle counting, cap tightening, label type differentiation, sealing tape detection, expiration date print checks.

✓ Electronics: IC/LED presence checks, connector wiring verification, smartphone component inspection.

✓ Automotive: Airbag stitching, bumper bolt checks, liquid gasket application check, tire mark detection, lithium-ion battery orientation check.

## 3. Applicant's interpretation of Law/Facts

**Classification:**

3.1 Rule 1 of GRI provides that the classification shall be determined in line with the following which needs to be followed in sequential order. The classification shall be determined according to the terms of headings and any relative Section or Chapter Notes. The relevant text is reproduced as under:

*"1. The titles of Sections, Chapters and sub-chapters are provided for ease of reference only; for legal purposes, classification shall be determined according to the terms of the headings and any relative Section or Chapter Notes and, provided such headings or Notes do not otherwise require, according to the following provisions:"*

3.2 Basis the above, Rule 1 of GIR, classification must be in accordance with the terms of Chapter heading and any other relevant Section and Chapter Notes.

- In the event the articles cannot be classified solely on the basis of GRI 1, GRI's 2 through 6 may be applied in order, as appropriate.
- Basis the above, let us now proceed to analyse the various relevant HSN codes with respect to the 'IV3-500MA vision sensor'.

3.3 **Whether 'IV3-500MA vision sensor' imported into India would merit classification under HSN: 9031.49 as "Measuring or checking instruments, appliances and machines, not specified or included elsewhere in this chapter; profile projectors"**

3.3.1 Chapter 90 of First Schedule to CTA, 1975 pertains to "Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; parts and accessories thereof".

3.3.2 Note 3 to Chapter 90 provides that the provisions of Notes 3 and 4 to Section XVI shall apply to chapter 90. According to Note 3 to Section XVI, composite machines that perform multiple functions are to be classified based on their principal function. Note 3 to Section XVI provides as under:

*"3. Unless the context otherwise requires, composite machines consisting of two or more machines fitted together to form a whole and other machines designed for the purpose of performing two or more complementary or alternative functions are to be classified as if consisting only of that component or as being that machine which performs the principal function"*

3.3.3 As per Note 3 to Section XVI of the Customs Tariff, classification is determined by the principal function of the product. The Vision Sensor performs automated measurement and inspection, which aligns with the scope of Heading 9031. The product performs both image capture and image processing, but its principal function is the inspection and checking of products on a production line as the Vision Sensor performs comparison based on the pre-registered OK/NG product images in order to output OK/NG judgement results. Therefore, it should be classified under the heading that corresponds to this function. The Product's functionality aligns with the scope of Heading 9031, which covers "measuring or checking instruments, appliances and machines, not specified or included elsewhere in this chapter." Accordingly, the IV3-500MA Smart Vision Sensor, being an optical instrument, whose principal function is to perform automated checking and inspection, is most appropriately classifiable under CTH 9031 49 00 – "Other – Other optical instruments and appliances."

**Port of Import and reply from concerned jurisdictional Commissionerate**

4.1 The applicant in their CAAR-1 indicated that they intend to import the subject goods i.e. IV3-500MA Smart Vision Sensor at the jurisdiction of Office of the Commissioner of Customs, ACC, Chennai. The application was forwarded to the Office of the concerned Commissionerate for their comments on 29.09.2025 & 29.10.2025. The Jurisdictional Commissionerate vide letter dated 06.12.2025 has submitted that based on the technical characteristics, principal usage, and applicable interpretative rules, the IV3-500MA Smart Vision Sensor satisfies the scope of Heading 9031 as a machine for measuring and checking. It incorporates essential optical elements and performs automated inspection using AI-based processing.

**Recommended Tariff Classification**

- **Chapter: 90** - Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; parts and accessories thereof
- **Heading: 9031** – Measuring or checking instruments, appliances and machines, not specified or included elsewhere in this Chapter;
- **Sub-heading:** 9031 49 00 – Other optical instruments and appliances

The Jurisdictional Commissionerate has opined that the product's primary functionality aligns with Heading 9031, and it is therefore recommended that the Smart Vision Sensor "IV3-500MA" is classifiable under CTH 9031 4900.

**Details of Hearing**

5.1 A hearing was held on 12.11.2025 at 04.00 PM. Ms. Divya Bhusan, Ms. Ekta Ghildiyal and Megha Singhvi appeared online for the PH on behalf of the applicant and Ms. Divya Bhusan reiterated the contention submitted with the application. She contended that the subject goods are "Smart Vision Sensors" using AI technology which is used in checking standards in different industry to ensure the standard, which merit classification under CTH 9031, more particularly under CTI 90314900 (Others). In support of their claim, she relied upon GRI (1), Note 3 to the section XVI, HSN explanatory notes to the section 9031 under title 1(14)- "checking standard". She also relied upon US cross rulings and other case laws submitted with the application. She contended that the subject goods are optical checking instruments of CTH 9031.

5.2 Nobody appeared for PH from the department side.

**Discussion and findings**

6.1 I have considered all the materials placed before me in respect of the subject goods. I have gone through the submissions made by the applicant during the personal hearing. I proceed to pronounce a ruling on the basis of information available on record as well as existing legal framework.

6.2 At the outset, I find that the issue raised in the question in the Form CAAR-1 is squarely covered under Section 28H(2) of the Customs Act, 1962, being a matter related to classification of goods under the provisions of this Act.

6.3 Before deciding the issue, let me deliberate on the legal framework prescribed in Customs Tariff Act, 1975, Chapter/ Section notes along with HSN explanatory notes. As per Rule 1 of GRI, the titles of Sections, Chapters and sub-Chapters are provided for ease of reference only; for legal purposes, classification shall be determined according to the terms of the headings and any relative Section or Chapter Notes.

6.4 The IV3-500MA Smart Vision Sensor is fundamentally designed to perform high-precision measurements related to the presence, orientation, and quality of components in manufacturing processes. Its core functionality revolves around visual inspection, which is a critical aspect of quality control.

6.5 The Product performs various checks such as Component presence/orientation checks, assembly verification, label/date inspection, Bottle counting, cap tightening, label type differentiation, sealing tape detection, expiration date print checks, IC/LED presence checks, connector wiring verification, smartphone component inspection, Airbag stitching, bumper bolt checks, liquid gasket application check, tyre mark detection, lithium-ion battery presence / orientation check, etc.

6.6 The Vision Sensor is equipped with a comprehensive suite of both standard and advanced detection tools, each designed to perform specific inspection and checking functions. The Standard Tools include capabilities for measuring Width, Diameter, Edge Presence, Pitch, Optical Character Recognition (OCR), and Colour/Brightness Prohibition. In addition, the Advanced Tools encompass features such as Blob Count, Learning Mode, and Multi-Position Adjustment.

6.7 These tools are essential components of the inspection process, enabling the Vision Sensor to accurately assess the quality and characteristics of various products. The presence of such sophisticated tools is in direct alignment with the requirements outlined in CTH 9031, which emphasizes the necessity for precise checking capabilities in measuring instruments. By utilizing these tools, the Vision Sensor can ensure that products meet stringent quality standards, thereby enhancing operational efficiency and reliability in industrial applications.

**Classification under Chapter 85**

7.1 According to Note 3 to Section XVI, composite machines that perform multiple functions are to be classified based on their principal function.

7.2 As per Note 3 to Section XVI of the Customs Tariff, classification is determined by the principal function of the product. The Vision Sensor performs automated measurement and inspection, which aligns with the scope of Heading 9031. The product performs both image capture and image processing, but its principal function is the inspection and checking of various aspects of products on a production line. Therefore, it should be classified under the heading that corresponds to this function.

7.3 Further, the Section Note 1(m) to Section XVI (which covers Chapter 85 of CTA) excludes the articles of Chapter 90 (which is not covered by Section XVI) . The relevant extract of the Section notes has been extracted below for ease of reference:

*"SECTION XVI*

*MACHINERY AND MECHANICAL APPLIANCES; ELECTRICAL EQUIPMENT; PARTS THEREOF; SOUND RECORDERS AND REPRODUCERS, TELEVISION IMAGE AND SOUND RECORDERS AND REPRODUCERS; AND PARTS AND ACCESSORIES OF SUCH ARTICLES NOTES:*

*1. This Section does not cover:*

*(a) Transmission or conveyor belts or belting, of plastics of Chapter 39, or of vulcanized rubber (heading 4010), or other articles of a kind used in machinery or mechanical or electrical appliances or for other technical uses, of vulcanized rubber other than hard rubber (heading 4016);*

*(b) Articles of leather or of composition leather (heading 4205) or of furskin (heading 4303), of a kind used in machinery or mechanical appliances or for other technical uses;*

*(c) Bobbins, spools, cops, cones, cores, reels or similar supports of any material (for example, Chapter 39, 40, 44 or 48 or Section XV);*

*(d) Perforated cards for Jacquard or similar machines (for example, Chapter 39 or 48 or Section XV);*

*(e) Transmission or conveyor belts or belting of textile material (heading 5910) or other articles of textile material for technical use (heading 5911);*

*(f) Precious or semi-precious stones (natural, synthetic or reconstructed) of headings 7102 to 7104, or articles wholly of such stones of heading 7116 except unmounted worked sapphires and diamonds for styli (heading 8522);*

*(g) Parts of general use, as defined in Note 2 to Section XV, of base metal (Section XV), or similar goods of plastics (Chapter 39);*

*(h) Drill pipe (heading 7304);*

*(ij) Endless belts of metal wire or strip (Section XV); (k) Articles of Chapter 82 or 83;*

*(l) Articles of Section XVII;*

*(m) Articles of Chapter 90;*

*(n) Clocks, watches or other articles of Chapter 91;*

*(o) Interchangeable tools of heading 8207 or brushes of a kind used as parts of machines (heading 9603); similar interchangeable tools are to be classified according to the constituent*

*material of their working part (for example, in Chapter 40, 42, 43, 45 or 59 or heading 6804 or 6909);*

*(p) Articles of Chapter 95; or*

*(q) Typewriter or similar ribbons, whether or not on spools or in cartridges (classified according to their constituent material, or in heading 9612 if inked or otherwise prepared for giving impressions) or monopods, bipods, tripods and similar articles, of heading 9620."*

7.4 Basis the above, it may be inferred that vide Section XVI (m), Articles that fall under Chapter 90 are specifically excluded from Section XVI, which covers Chapter 85. In other words, any article that gets covered under Chapter 90 shall not be covered under any Chapter falling under Section XVI (which includes Chapter 85).

7.5 Since the instant Product falls under Tariff heading 9031 (as elaborated in previous paragraphs), therefore, the same cannot be construed to fall under any of the Chapter of Section XVI of CTA, which includes Chapter 85 as well.

7.6 Let me also examine and analyse whether the product merits classification under Chapter 85. Chapter 85 of First Schedule to CTA pertains to "Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers and parts and accessories of such articles"

7.7 For classification under chapter 85, the following tariff entry appears to be most relevant:

The Tariff head 8525 which pertains to 'Transmission apparatus for radio-broadcasting or television, whether or not incorporation reception apparatus or sound recording or reproducing apparatus; television cameras, digital cameras and video camera recorders'

(a) According to the Explanatory Notes to Heading 8525, this heading includes:

✓ Transmitters for radio broadcasting or television

✓ Television cameras: Devices that capture images and convert them into electronic signals for real-time transmission to an external location.

✓ Digital cameras and video camera recorders: Devices that capture and record still or moving images internally.

(b) The Explanatory Notes further indicate that these devices are primarily intended for image capture and transmission or recording, not for processing or analysis of images and extracting useful information for them.

(c) The Vision Sensor is fundamentally different from the devices described in Heading 8525. Its principal function is not to capture and transmit or record images for mere viewing, but rather to:

✓ Capture images using a CMOS sensor,

✓ Process those images using AI-based algorithms,

✓ Perform inspection and judgment based on pre-registered OK/NG image data,

✓ Output inspection results (e.g., OK/NG signals) to external systems.

(d) Further, unlike television or digital cameras, the Vision Sensor does not transmit video signals for real-time viewing. It does not record images for playback as a primary function. Any image storage is incidental and limited (e.g., up to 100 images for inspection history), and not intended for general-purpose media recording. Thus, it does not meet the core criteria of devices under Heading 8525.

**Classification under Chapter 90:**

8.1 From the applicant submission, it can be understood that 'IV3-500MA Smart Vision Sensor' (Vision Sensor' / 'Product') is an advanced smart vision sensor designed to perform high-precision presence detection, inspection, and differentiation tasks in industrial and manufacturing environments. Leveraging AI-based imaging and detection technologies, the Vision Sensor simplifies complex visual inspection processes, ensuring high accuracy and operational efficiency. Its core functionality revolves around visual inspection, which is a critical aspect of quality control.

8.2 The primary objective of the IV3-500MA vision sensor is to conduct thorough inspections and checks regarding the presence or absence, orientation, alignment, accuracy, and differentiation of parts or products. The effectiveness of the sensor lies in its ability to analyze the images it captures and perform checks based on that analysis. Without this critical evaluation, the images obtained would lack practical utility, rendering them ineffective for quality control purposes.

8.3 The tariff entry 9031 pertains to "Measuring or checking instruments, appliances and machines, not specified or included elsewhere in this chapter; profile projectors". The relevant Tariff heading and its sub-headings are reproduced below for ready reference:

| **Tariff Entry** | | **Description** |
|---|---|---|
| 9031 | | Measuring or checking instruments, appliances and machines, not specified or included elsewhere in this chapter; profile projectors |
| 90311000 | - | Machines for balancing mechanical parts |
| 90312000 | - | Test benches |
| | - | **Other optical instruments and appliances:** |
| 90314100 | -- | For inspecting semiconductor wafers or devices (including integrated circuits) or for inspecting photomasks or reticles used in manufacturing semiconductor devices (including integrated circuits) |
| **90314900** | -- | **Other** |
| 90318000 | - | Other instruments, appliances and machines |
| 90319000 | - | Parts and accessories |

As per the explanatory notes the HSN entry 9031, *"In addition to profile projectors, this heading covers measuring or checking instruments, appliances and machines, whether or not optical. It should, however, be noted that this group does not include any instruments, apparatus, etc., falling in headings 90.01 to 90.12 or 90.15 to 90.30; in particular, the following are therefore excluded:*

*(a) Astronomical instruments of heading 90.05.*

*(b) Microscopes (heading 90.11 or 90.12).*

*(c) Surveying, etc., instruments and appliances of heading 90.15.*

*(d) Instruments for measuring length, for use in the hand (heading 90.17).*

*(e) Medical, surgical, etc., instruments and appliances of heading 90.18.*

*(f) Machines or appliances for testing the mechanical properties of materials (heading 90.24).*

*(g) Flowmeters, etc., of heading 90.26.*

*(h) Instruments and apparatus for measuring and checking electrical quantities and instruments and apparatus for measuring or detecting ionising radiations of heading 90.30.*

*(i)Automatic regulating or controlling instruments and apparatus (heading 90.32)……"*

8.4 According to Note 3 to Section XVI, composite machines that perform multiple functions are to be classified based on their principal function. Note 3 to Section XVI provides as under:

> *"3. Unless the context otherwise requires, composite machines consisting of two or more machines fitted together to form a whole and other machines designed for the purpose of performing two or more complementary or alternative functions are to be classified as if consisting only of that component or as being that machine which performs the principal function"*

8.5 As per Note 3 to Section XVI of the Customs Tariff, classification is determined by the principal function of the product. The Vision Sensor performs automated measurement and inspection, which aligns with the scope of Heading 9031. The product performs both image capture and image processing, but its principal function is the inspection and checking of products on a production line as the Vision Sensor performs comparison based on the pre-registered OK/NG product images in order to output OK/NG judgement results. Therefore, it should be classified under the heading that corresponds to this function. The said heading and its classification analysis has been elaborated in the ensuing paragraphs.

8.6 From the catalogue and technical details verified from the website of the applicant, it can be understood that the Vision Sensor is fundamentally different from the devices described in Heading 8525.

(a) Its principal function is not to capture and transmit or record images for mere viewing, but rather to:

- ✓ Capture images using a CMOS sensor,
- ✓ Process those images using AI-based algorithms,
- ✓ Perform inspection and judgment based on pre-registered OK/NG image data,
- ✓ Output inspection results (e.g., OK/NG signals) to external systems.

(b) Further, unlike television or digital cameras, the Vision Sensor does not transmit video signals for real-time viewing. It does not record images for playback as a primary function. Any image storage is incidental and limited (e.g., up to 100 images for inspection history), and not intended for general-purpose media recording. Thus, it does not meet the core criteria of devices under Heading 8525.

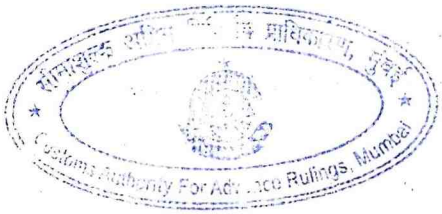
8.7 Further, the applicant relied upon **American Cross Ruling 801771**, wherein the Machine Vision Sensor was classified under HTSUS 9031.90.5500 because it consisted of multiple components forming a complete sensor system. It was used solely for measurement, not for control and the data was for use in quality control and efficiency could also be obtained from the sensor.

Also, in **American Cross Ruling 954682**, the classification of Eisai Ampoule Inspection Machine ('AIM') was considered. The AIM was designed to inspect ampoules and vials for foreign particulate matter and fill levels using a combination of optical elements (lenses, light sources) and photodiode arrays. Although the AIM did not perform analysis or control, it checked the contents and sorted them based on preset thresholds. The ruling concluded that the AIM was not measuring light per se, but checking the ampoules using optical means.

It was further stated that "The lenses in the AIM direct light from the light source to the ampoule and then onto the photodiode array. We find that the use of the optical elements is not subsidiary. Without the optical elements, the AIM could not perform its function of detecting foreign particulate in the solution and check for fill. Therefore, we find that the AIM meets the definitions of "optical" appliances" and "optical instruments" under Additional U.S. Note 3 to Chapter 90. The AIM is an optical checking instrument and is classifiable under subheading 9031.40.00,". I also found the same, relevant in this case.

8.8 Based upon the literature provided by the applicant, technical specification, GRI 1 and explanatory notes, it is ampule clear that the IV3-500MA Smart Vision Sensor is specifically designed and primarily intended for automated industrial inspection and checking. The product integrates advanced optical components and AI-based image processing tools to perform high-precision visual inspections, including presence detection, orientation verification, and defect identification across a wide range of manufacturing applications. The IV3-500CA Smart Vision Sensor uses optical components (camera, lenses, illumination) to capture images and performs automated checking of objects based on pre-registered OK/NG image data. Does not





perform general-purpose image recording or transmission. Its principal function is checking and inspection using optical image analysis. Therefore, just like the AIM, the IV3-500CA uses optical elements not for viewing but for functional image-based checking. Currently, IV3-500CA Smart Vision Sensor is classified as "other Parts and accessories" under subheading 9031.90. However, as the product itself has capability of checking function with equipped optical components (i.e., lens), therefore, I find that subject goods are appropriately classifiable under CTH 9031 49 00 "Other" under the subhead 'Other optical instruments and appliances.

9. In view of the above facts and circumstances of the case and legal provisions, I reach to conclusion that

*The products in question attracts merit classification under CTH 9031 ("measuring or checking instruments, appliances and machines, not specified or included elsewhere in this chapter"), more specifically under CTI 90314900 ("Other-Other optical instruments and appliances) of the First Schedule of the Custom Tariff Act, 1975.*

10. I rule accordingly.

**(Prabhat K. Rameshwaram)**
Customs Authority for Advance Rulings,
Mumbai.

This copy is certified to be a true copy of the ruling and is sent to:

1. Keyence India Private Limited.
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2. The Pr. Commissioner of Customs (Air Cargo),
   New Custom House, Chennai-VII Commissionerate,
   Air Cargo Complex, Meenambakkam, Chennai- 600016

3. The Customs Authority for Advance Rulings,
   Room No. 24, New Customs House,
   Near IGI Airport, New Delhi-110037.
   Email: cus-advrulings.del@gov.in

4. The Principal Chief Commissioner of Customs,
   Mumbai Customs Zone-I, Ballard Estate,
   Mumbai -400001. Email: ccu-cusmum1@nic.in

5. The Commissioner (Legal), CBIC Offices,
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6. The Member (Customs), Central Boards of Indirect Taxes & Customs, North Block, New Delhi-110001.Email: mem.cus-cbec@nic.in

7. The Webmaster, Central Boards of Indirect Taxes & Customs.
   Email: webmaster.cbec@icegate.gov.in

8. Guard file.

8-12-25

**(Vivek Dwivedi)**
Dy. Commissioner & Secretary
Customs Authority for Advance Rulings,
Mumbai