

## Quick Guide

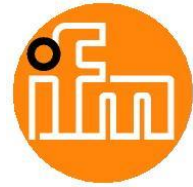
Article number:	AP3022
Article name:	App AC14 O2I camera
Version:	1.0.2
AC14 firmware version:	>= V3.1.2
URL (main page):	http://<IP-Adresse*>:8080/o2i.htm
URL (additional pages):	-
Languages:	English
Restrictions in demo mode:	The communication between the SmartPLC AC14 and the cameras will be interrupted after one hour.
Additional required software:	O2I1xx / O2I3xx operating software: <ul style="list-style-type: none"><li>• efector dualis Multicode-Reader Parameter setting software</li></ul> This program belongs to the shipment of this App. Additionally it's available free of charge in the download section on ifm.com

\* IP address of the AC14 configuration interface

## Short description

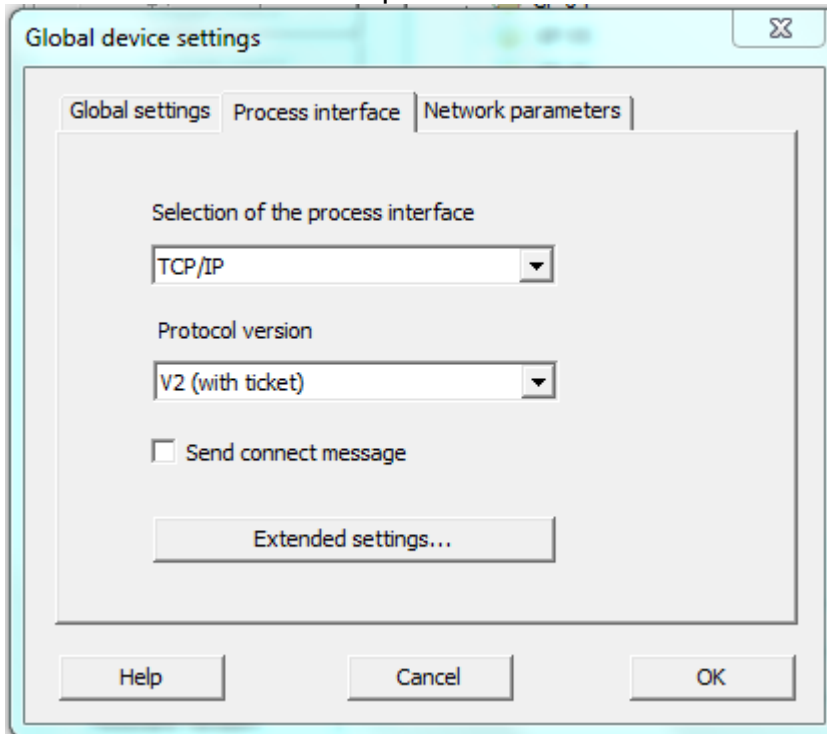
Key functions of ifm System Solutions App O2I (AP3022):

- Connection setup for up to 5 cameras of type O2I1xx / O2I3xx.
- Monitoring of the Ethernet connection to the cameras. The connection status is transferred via the fieldbus to the upper level PLC.  
**Caution:** The connection status of a camera will only be updated for this camera after triggering it.
- Gateway function between the ethernet based O2I-Camera-Data and the fieldbus of the AC14:
  - AC1401/02: Profinet
  - AC1411/12: Profibus
  - AC1421/22: EtherNet/IP
- The cameras can be triggered via the fieldbus and the Web-Interface.
- The reading results of the cameras are transferred to the fieldbus and displayed in the Web-Interface.

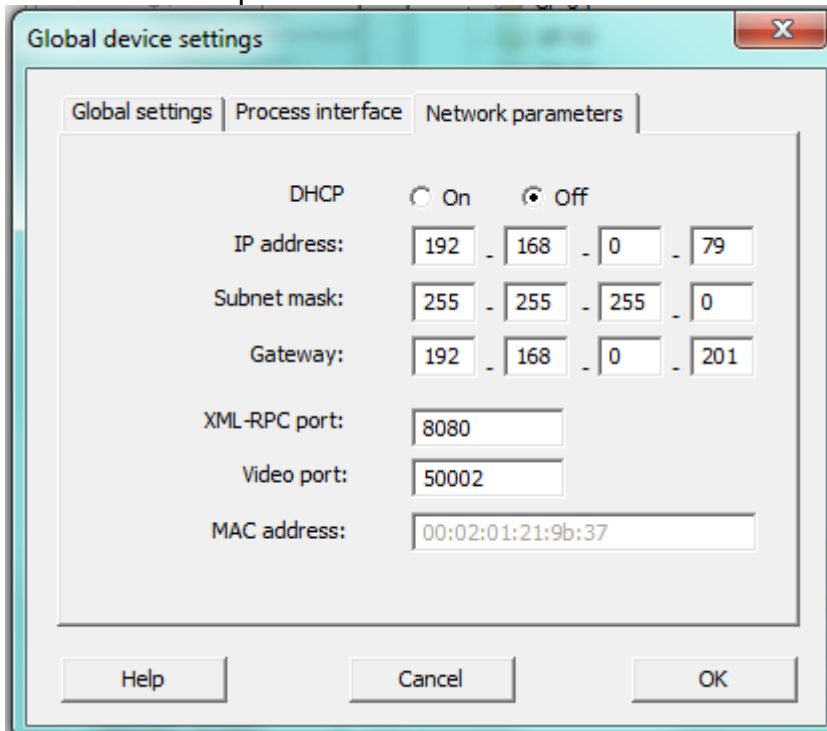


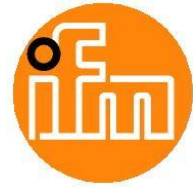
**Groundworks for using the ifm System Solutions App**

1. Setup the camera within the Software 'efector dualis Multicode Reader Parameter setting software' which you can find on the USB stick:
  - Set the global device settings of the process interface of the O2I-Multicode-Readers like shown in the picture below:



- Set the network parameters of the O2I-Multicode-Readers:





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- Create a new configuration and configure all required image quality parameters for your application.
- Set the 'Trigger type' in the Tab element 'Trigger configuration' to 'TCP/IP'.

Lighting segments

Image quality | Trigger configuration

Trigger type: TCP/IP [v] [Test trigger]

Use trigger window:

Trials: 1 [v] Good reading(s) within: 1000 [v] ms

- Define in the tab element 'Code type' the right one for your application, e.g. EAN13.
- For the Process interface settings the default values must be used:

General | Content and Quality

Mode: Read [v]

Start string: start [v]

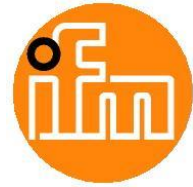
Stop string: stop [v]

Failed reading string: fail [v]

Good reading string: match [v]

Reference code: test\_code [v]

- Save all settings and disconnect the existing device connection.



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## The user interface

URL of the O2I configuration page: [http://<IP-Adresse\\*>:8080/o2i.htm](http://<IP-Adresse*>:8080/o2i.htm)

On this screen the cameras IP addresses, the port numbers and the code length can be entered. As soon as the option field 'Activate connection to camera' is activated, the AC14 tries to establish a connection to the camera. The connection status is shown for each camera.

**Caution:** The connection status of a camera will only be updated for this camera after triggering it.

Connection settings                      Code length [characters]                      Manual trigger

O2I camera 1

IP address:	192	.	168	.	0	.	79
Port number:	50003						
Code length:	13						
Code:	0077890256008						

Activate connection to camera

Data exchange running

Manual trigger

Output field of the detected code.  
If no code was detected 'fail' is shown here.  
If a request is pending 'busy' is shown here.



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In word 0 of the fieldbus slot 'Outputs to AC14nn-PLC' the O2I cameras can be triggered:

- Bit 0: not used
- Bit 1: Kamera 1
- Bit 2: Kamera 2
- Bit 3: Kamera 3
- Bit 4: Kamera 4
- Bit 5: Kamera 5

The trigger signals of each camera are monitored by the SmartPLC AC14 for a rising edge. Only this edge triggers the camera.

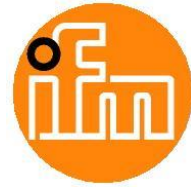
In word 0 of the fieldbus slot 'Inputs from AC14nn-PLC' the camera connection status is transmitted:

- Bit 0: not used
- Bit 1: camera 1
- Bit 2: camera 2
- Bit 3: camera 3
- Bit 4: camera 4
- Bit 5: camera 5

True = connection to camera is ok

False = no connection to camera

**Caution:** The connection status of a camera will only be updated for this camera after triggering it.



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In the words 1 ... n of the fieldbus slots 'Inputs from AC14nn-PLC' all camera data are transmitted as data type String. If an odd number is transmitted by a camera the last character is filled with the value 0. That's because the next camera data should start on n even word number.

	Operand	Symbol	Anzeigeformat	Statuswert	Steuerwert
1	EW 0		HEX	W#16#003E	
2	EW 2	"Start_C1"	HEX	W#16#3030	
3	EW 4		HEX	W#16#3737	
4	EW 6		HEX	W#16#3839	
5	EW 8		HEX	W#16#3032	
6	EW 10		HEX	W#16#3536	
7	EW 12		HEX	W#16#3030	
8	EW 14		HEX	W#16#3800	
9	EW 16	"Start_C2"	HEX	W#16#6661	
10	EW 18		HEX	W#16#696C	
11	EW 20		HEX	W#16#2020	
12	EW 22		HEX	W#16#2020	
13	EW 24		HEX	W#16#2020	
14	EW 26		HEX	W#16#2020	
15	EW 28		HEX	W#16#2000	
16	EW 30	"Start_C3"	HEX	W#16#6661	
17	EW 32		HEX	W#16#696C	
18	EW 34		HEX	W#16#2020	
19	EW 36		HEX	W#16#2020	
20	EW 38		HEX	W#16#2020	
21	EW 40		HEX	W#16#2020	
22	EW 42		HEX	W#16#2000	
23	EW 44	"Start_C4"	HEX	W#16#6661	
24	EW 46		HEX	W#16#696C	
25	EW 48		HEX	W#16#2020	
26	EW 50		HEX	W#16#2020	
27	EW 52		HEX	W#16#2020	
28	EW 54		HEX	W#16#2020	
29	EW 56		HEX	W#16#2000	
30	EW 58	"Start_C5"	HEX	W#16#6661	
31	EW 60		HEX	W#16#696C	
32	EW 62		HEX	W#16#2020	
33	EW 64		HEX	W#16#2020	
34	EW 66		HEX	W#16#2020	
35	EW 68		HEX	W#16#2020	
36	EW 70		HEX	W#16#2000	

Received code data from camera 1.  
In this example an EAN13 Code was detected, i.e. 13 characters ASCII.  
0077890256008

Filling byte to make sure that the data of the next camera starts with the next even word address.