MESSRS:

SPECIFICATONS

Product Name	GMC-755N/P
Function	25x AF Zoom camera Module
Part No.	
Approval	

Issued by   :

Checked by :

Approved by :

Honeywell co., Ltd
CEHS SBE Security CoE

1. General Specifications
1.1 Specifications of GMC-755N , NTSC

1) Scanning system	2:1 interlace
-- Scanning frequency (H)	15.734 kHz
-- Scanning frequency (V)	59.94 Hz
2) Pickup device	1/4 " SONY Super HAD CCD
3) Total pixels	410,000 pixels (811(H) X 508(V))
4) Effective pixels	380,000 pixels (768(H) X 494(V))
5) Signal to Noise ratio	more than 48 d B
6) Horizontal Resolution	more than 470 TV lines
7) Lens specifications	
-- Focal length	f = 3.8 ~ 95 mm
-- Zoom ratio	25 x
-- Relative aperture	F 1.6 (WIDE) ~ F 3.7 (TELE)
-- Lens construction	11 Elements in 8 groups + IR cut filter
	(including 2 aspherical lenses)
-- Focus and Zoom motor	Stepping motor
-- Iris	Galvanometer
8) Digital zoom ratio	x26 ~ x200 can be adjustable
9) Sync system	Internal / External (VD pulse lock)
	Auto detecting selectable
10) Minimum illumination	1.0 lx (30 IRE) ; Day & night Off (Color)
	0.1 lx(30 IRE) ; Day & night ON (black & white) *1
	0.01 lx ; Field integration x128 ON (Option) *2

*1 : Can be selectable through removal of IR cut filter in lens
  IR (Infrared) cut filter on mode ---> color camera
  IR (Infrared) cut filter off mode ---> black & white camera
*2 : Sensitivity improvement function by combining the CCD exposure time control
  and the field memory. (x2 ~ x128 selectable)

11) On screen display	On / Off
12) Video output	Composite output 75 ohm terminated 1.0Vpp
13) Camera remote control	RS-232C , RS-422 , RS-485 (Option)
14) Camera detail functions	
① Zoom speed	Minimum speed 3.0 sec (TELE - WIDE)
② Focus speed	Less than 1.0 sec
③ Iris speed	Less than 1.2 sec
④ temperature compensation	zoom curve compensation
	Iris position compensation
⑤ brightness control	15 steps
⑥ white balance control	ATW / AWC / INDOOR / OUTDOOR / MWB
⑦ AGC control	High / Medium / Low
⑧ Shutter speed control	28 Steps
⑨ Flicker less	ON / Off (Shutter speed 1/100)
⑩ Back light compensation	On / Off / Auto
⑪ Zoom / Focus preset	64 position preset
⑫ Day & Night mode	On / Off / Auto
⑬ Mirror mode	On / Off
⑭ Negative mode	On / Off
15) Operating temperature	-5 ℃ ~ 60 ℃
	(Recommendation -5 ℃ ~ 50 ℃)
16) Operation Humidity	0 % RH ~ 90 % RH
17) Storage temperature	-10 ℃ ~ 60 ℃ , 0 % RH ~ 90 % RH
18) Supplied power	12 V ± 1 V
19) Power consumption	Max 4.5 W (Field integration)
20) Dimensions (W x H x D)	59.6 x 66.6 x 94.7 (W x H x D)
21) Weight	0.35 Kg

1-2. Specifications of GMC-755P , PAL

1) Scanning system   2:1 interlace
   -- Scanning frequency (H)   15.625 kHz
   -- Scanning frequency (V)   50 Hz
2) Pickup device   1/4 " SONY Super HAD CCD
3) Total pixels   470,000 pixels (795(H) X 596(V))
4) Effective pixels   440,000 pixels (752(H) X 582(V))
5) Signal to Noise ratio   more than 48 d B
6) Horizontal Resolution   more than 450 TV lines
7) Lens specifications
   -- Focal length   f = 3.8 ~ 95 mm
   -- Zoom ratio   25 x
   -- Relative aperture   F 1.6 (WIDE) ~ F 3.7 (TELE)
   -- Lens construction   11 Elements in 8 groups + IR cut filter
                              (including 2 aspherical lenses)
   -- Focus and Zoom motor   Stepping motor
   -- Iris   Galvanometer
8) Digital zoom ratio   x26 ~ x200 can be adjustable
9) Sync system   Internal / External (VD pulse lock)
                              Auto detecting selectable
10) Minimum illumination   1.0 lx (30 IRE) ; Day & night Off (Color)
                              0.1 lx (30 IRE) ; Day & night ON (black & white) *1
                              0.01 lx ; Field integration x128 ON (Option) *2

   *1 : Can be selectable through removal of IR cut filter in lens
          IR (Infrared) cut filter on mode ---> color camera
          IR (Infrared) cut filter off mode ---> black & white camera
   *2 : Sensitivity improvement function by combining the CCD exposure time control
          and the field memory. (x2 ~ x128 selectable)

11) On screen display   On / Off
12) Video output   Composite output 75 ohm terminated 1.0Vpp
13) Camera remote control   RS-232C , RS-422 , RS-485 (Option)
14) Camera detail functions
   ① Zoom speed   Minimum speed 3.0 sec (TELE - WIDE)
   ② Focus speed   Less than 1.0 sec
   ③ Iris speed   Less than 1.2 sec
   ④ temperature compensation   zoom curve compensation
                              Iris position compensation
   ⑤ brightness control   15 steps
   ⑥ white balance control   ATW / AWC / INDOOR / OUTDOOR / MWB
   ⑦ AGC control   High / Medium / Low
   ⑧ Shutter speed control   28 Steps
   ⑨ Flicker less   ON / Off (Shutter speed 1/120)
   ⑩ Back light compensation   On / Off / Auto
   ⑪ Zoom / Focus preset   64 position preset
   ⑫ Day & Night mode   On / Off / Auto
   ⑬ Mirror mode   On / Off
   ⑭ Negative mode   On / Off
15) Operating temperature   -5 ℃ ~ 60 ℃
                              (Recommendation -5 ℃ ~ 50 ℃)
16) Operation Humidity   0 % RH ~ 90 % RH
17) Storage temperature   -10 ℃ ~ 60 ℃ , 0 % RH ~ 90 % RH
18) Supplied power   12 V ± 1 V
19) Power consumption   Max 4.5 W (Field integration)
20) Dimensions (W x H x D)   59.6 x 67.6 x 94.7 (W x H x D)
21) Weight   0.35 Kg

2. Quality assurance tests

1) Normal function & performance tests
    - Condition :   25 ℃ ± 5 ℃ ,   60 %RH
    - Check the camera's basic function and performance with given test procedure .
2) Operating temperature and humidity
    - Condition :   -5 ℃ ~ 60 ℃   , 0%RH ~ 90%RH (Recommendation -5 ℃ ~ 50 ℃)
3) Accelerated life test
    - Condition :   60 ℃ ,   90 %RH ,   168Hrs
    - Camera status : Apply a proper power to testing unit.
    - Check basic function and performance of camera.
4) Tests for storage temperature and humidity with carton
    - Condition :   -10 ℃   ,   0%RH   , 24Hrs
                            60 ℃   ,   90%RH   , 24Hrs
    - After Leaving the carton at above condition ,
      check the function and performance of camera.
5) Accelerated cycling test
    - Condition :   -10 ℃ ~ 60 ℃   , 0%RH ~ 90%RH
    - Camera status : Apply a proper power to testing unit.
    - Cycle conditions :

    - Cycling tests are performed 10 times repeatedly . (Total test times are 130 hours)
    - After this test , moving it at normal temperature and check the camera's functions 2 hours later.
6) Vibration test (with carton)
    - Condition :   1G , frequency 10 ~ 55 Hz
    - Check the camera's operations after testing each directions X,Y,Z for 2 hours duration of a vibration.
7) Drop test (with carton)
    - Drop the testing unit under conditions of height 0.8m , one corner , 3 edges , 6 surfaces .
    - Check the camera's operations .
8) Electrostatic test
    - Condition :   In air   8KV   , contact   4KV
    - During this test is performed , Check the camera operations .
9) EFT/B test
    - Condition :   Power line ---> more than 1 levels (less than 1KV)
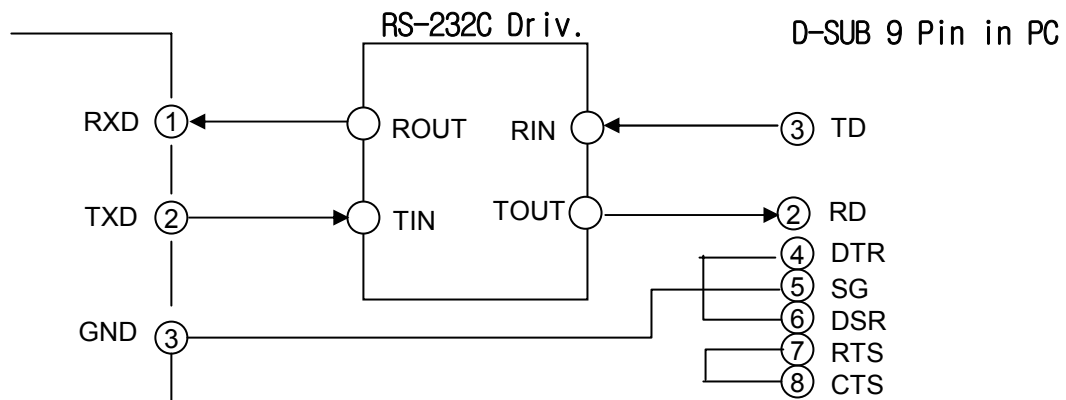   signal and communications line ---> more than 3 levels (less than 1KV)

3. User interface guide for installation

1) Connector Pin configurations ; Maker : ELCO , part no. : 00-6200-097-052-800
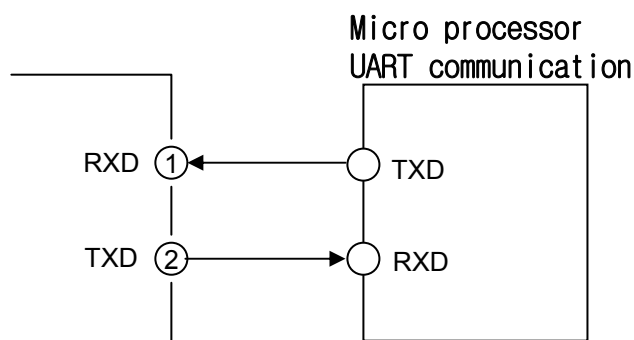Description : 1.0mm pitch flexible Ribbon cable

	Pin description	I/O	Explanation
1	RXD	I	For communication input from camera , CMOS level
2	TXD	O	For communication output to camera , CMOS level
3	GND		Pair ground with communication
4	12V IN	I	DC Power supply input , 12V ± 1V
5	GND		Pair ground with power supply
6	VIDEO OUT	O	Composite video output , (75 ohm terminated)
7	GND		Pair ground with video output
8	VD Pulse IN	I	For external synchronization , vertical sync pulse in
9	GND		Pair ground with external VD pulse input

2) Applications for camera control
　ⓐ Camera control method through communication with PC
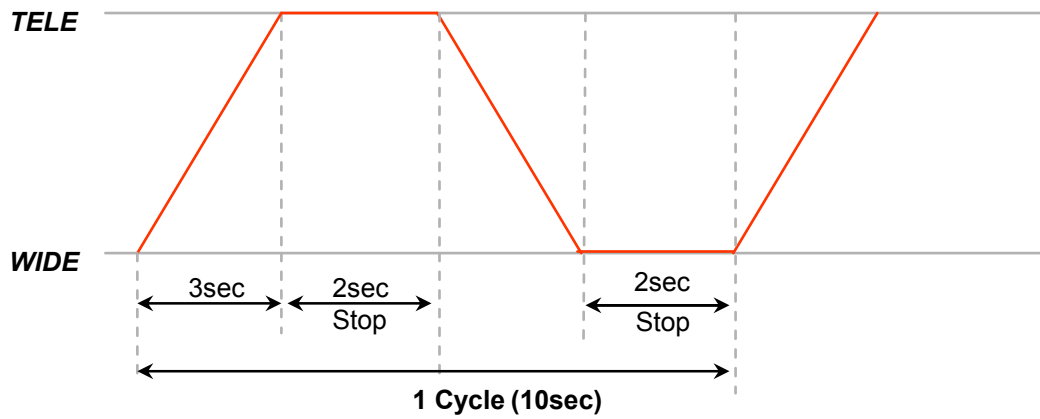

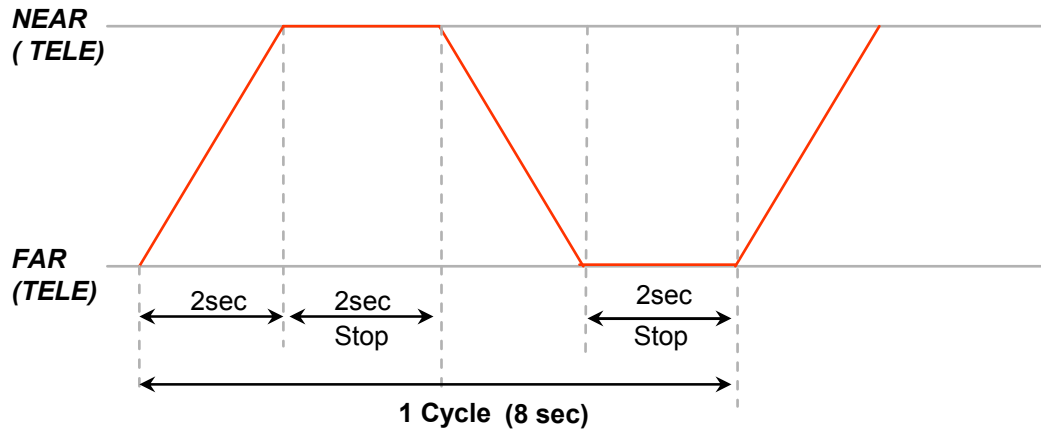　ⓑ Camera control method through other micro processor

3) Line pulse (vertical drive pulse) for external synchronization (falling edge triggering)
　; input level range : 3.0 ~ 5.0 V
　input frequency range : in case of NTSC 60 Hz ± 0.5Hz
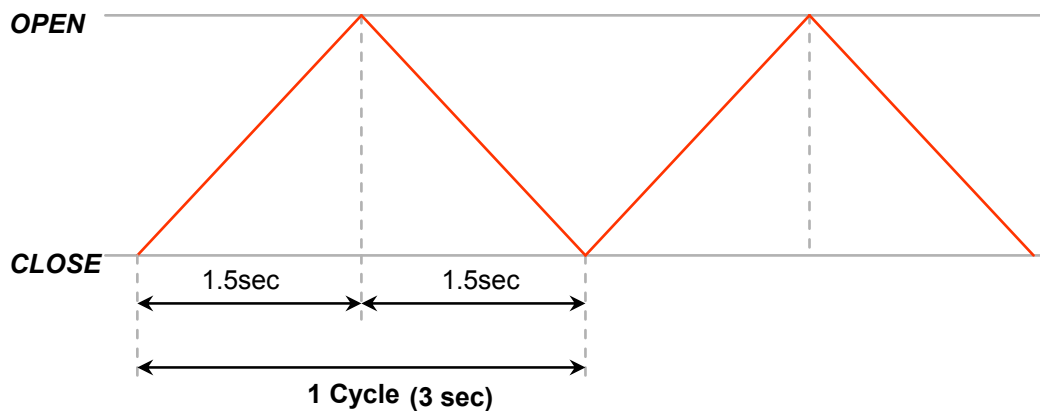　in case of PAL 50 Hz ± 0.5Hz

4. LENS TEST

1) Zoom Motor ; More than 1,000,000 cycles

TELE

WIDE

3sec | 2sec Stop | 2sec Stop

1 Cycle (10sec)

2) Focus motor ; More than 2,000,000 Cycles

NEAR (TELE)

FAR (TELE)

2sec | 2sec Stop | 2sec Stop

1 Cycle (8 sec)

3) Iris Meter ; More than 1,000,000 Cycles

OPEN

CLOSE

1.5sec | 1.5sec

1 Cycle (3 sec)

5. User's manual for operations

Refer to Appendix A.

6. Measurement specifications

Refer to Appendix B.

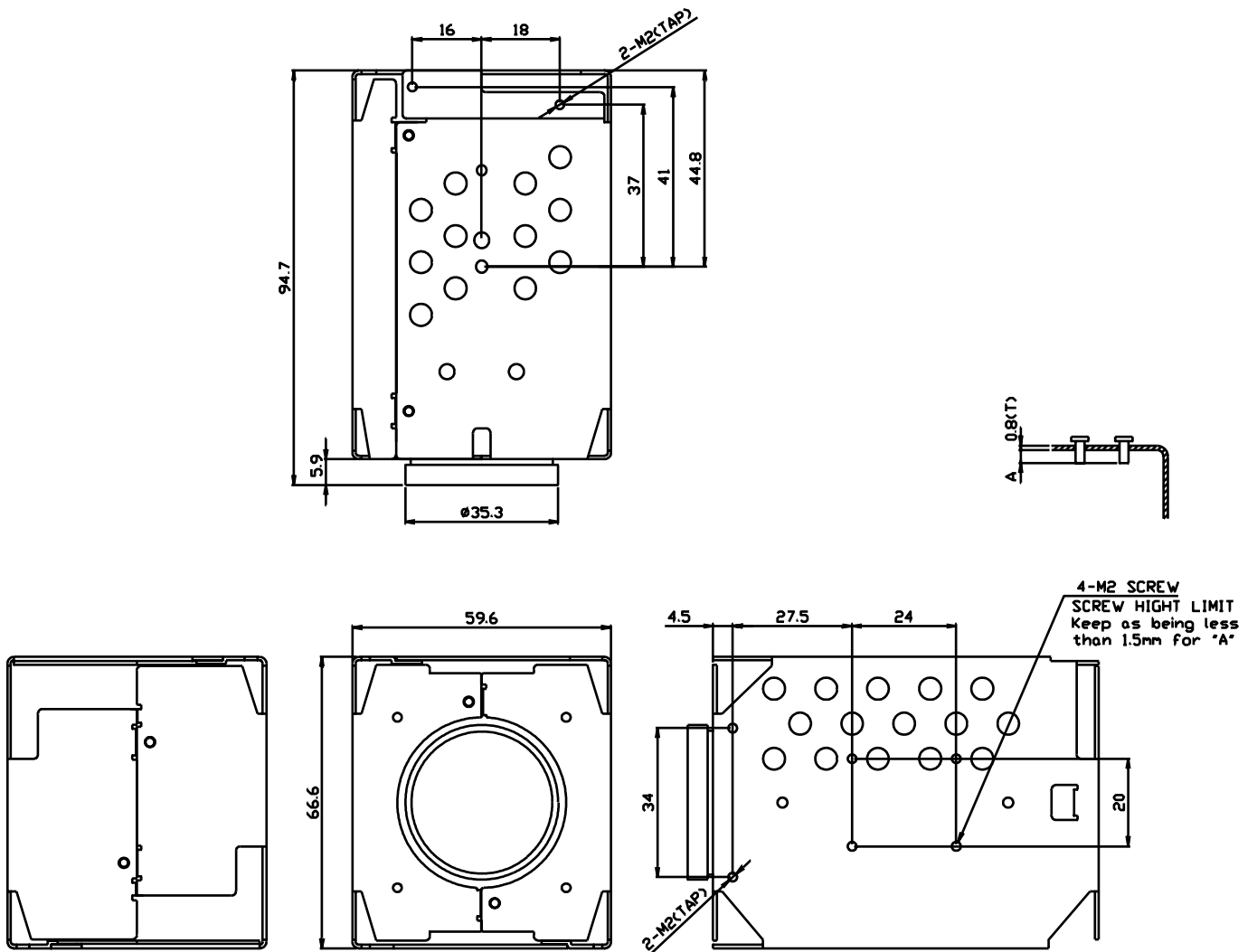# 7. Communication protocol
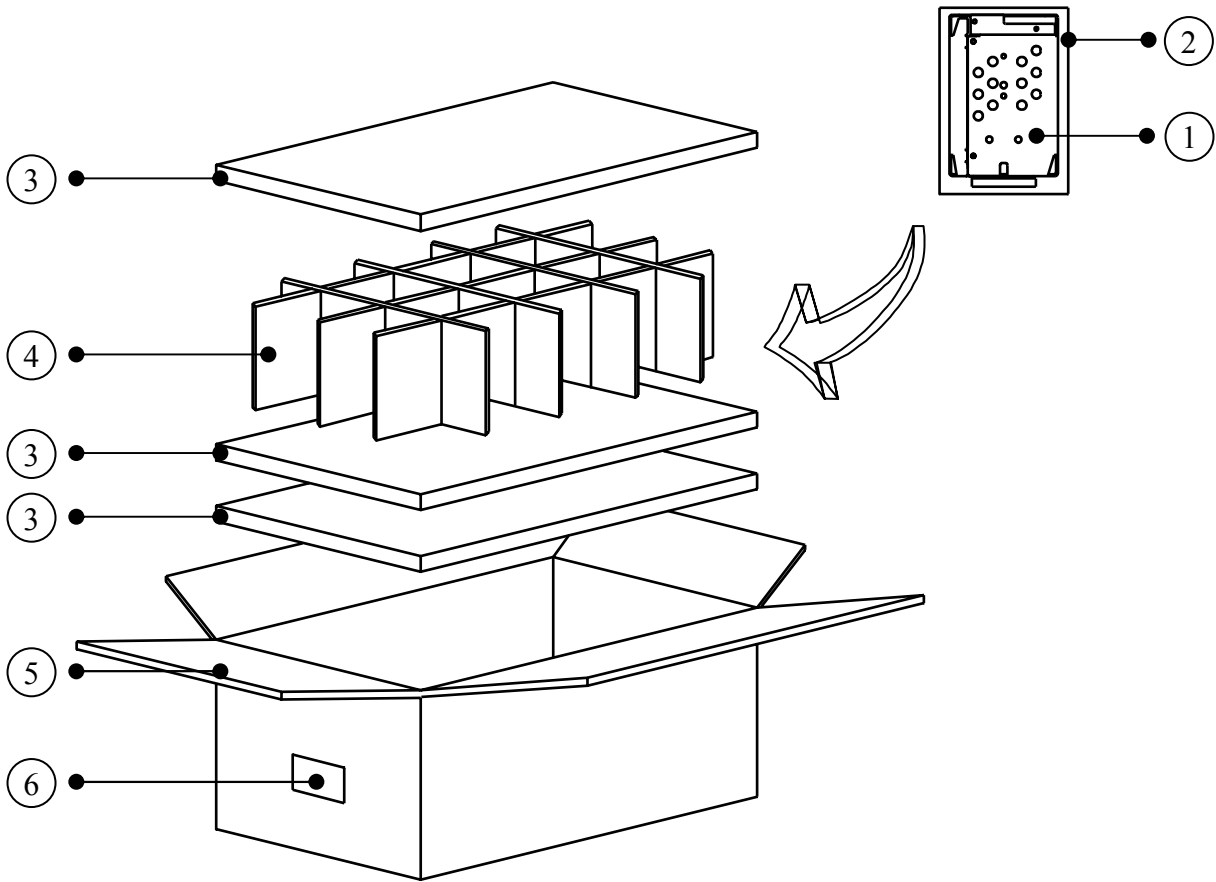
Refer to Appendix C.

8. Optional accessories

Flat-flex cable   200 mm   (P/N : G-958076-09-200)

Remote control board for installation (P/N :   )

9. Overall Dimensions

10. Carton Dimensions

NO	ITEM	ITEM NO	QT'Y
1	MODULE ASS'Y		20
2	AIR BAG	G-110160-A	20
3	INNER-B	G-110157	0.15
4	INNER-A	G-110156	0.05
5	BOX	G-110155-A	0.05
6	LABEL PACKING	G-107155-200	0.05
7	9P FFC CABLE	G-958076-09-200	20