Godox 神牛

迅丽TTL机顶闪光灯
Thinklite TTL Camera Flash
TT685N

For Nikon

INSTRUCTION MANUAL
说　明　手　册
中英文双语 / Chinese English Bilingual

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705-TT685N-00　Made In China　FC CE RoHS

在使用本产品之前：
请先仔细阅读本手册，以确保您能安全使用。请保存好本手册以备将来查询参考。

Before using this product:
Please read this user manual carefully in order to ensure your safety and the proper operation of this product. Keep for future reference.

前言

感谢您购买神牛产品。

该型号机顶闪光灯适用于Nikon系列相机，兼容i-TTL自动闪光。使用i-TTL闪光灯。您将获得更简单的拍摄体验，在光线变化复杂的情况下，可以自动获得准确的闪光曝光，拍摄轻松自如。产品特点突出表现在以下几方面：

- **GN60 (m ISO 100, @200mm), 22级调光(1/1~1/128)**
- **兼容尼康i-TTL**

  支持i-TTL自动闪光，可作为无线多灯闪光系统的主控或从属单元，拍摄更简单快捷
- **点阵液晶屏**

  显示直观，操作更加简易
- **内置2.4G无线传输**

  收发一体，超远距离，创意无限
- **无线功率遥控触发**

  选购FT-16S遥控器，可对离机闪光灯进行无线功率调节等参数设置，同时触发引闪
- **功能齐全，无限享用**

  支持手动和频闪闪光模式，高速同步/第二帘快门同步/闪光曝光补偿等i-TTL功能
- **光学研究，输出稳定**

  高速连闪，每次输出亮度和色温连续一致(5600±200K)，光线均匀分布
- **固件升级，兼容无忧**

  跟随原厂相机步伐，可对软件进行再升级

⚠ 警 告

- ⚠ 请保持干燥。
- ⚠ 请勿私自拆卸产品，如产品出现故障须由本公司或授权的维修人员进行检查维修。
- ⚠ 请勿让儿童接触本产品。
- ⚠ 禁止拆卸、撞击、挤压或投入火中，若出现严重鼓胀，请勿继续使用。请勿放置在超过50度的高温环境中。
- ⚠ 请勿将闪光灯头正对人眼闪光(特别是婴儿的眼睛)，否则可能会在短时间内造成视力障碍。
- ⚠ 请勿在化学品、可燃性气体或其他特殊物质附近使用闪光灯，这些物质在特殊情况下可能对闪光灯发出的瞬间强光敏感，有可能导致火灾或电磁干扰。在这些场合下，请注意相关警告标识。
- ⚠ 本产品不能防水，在雨天及潮湿环境下请注意防水。
- ⚠ 若发生任何故障，请立即关闭闪光灯电源。

迅丽
THINKLITE
Electronic Camera Flash

迅丽TTL机顶闪光灯
Thinklite TTL Camera Flash

本说明书中使用的约定

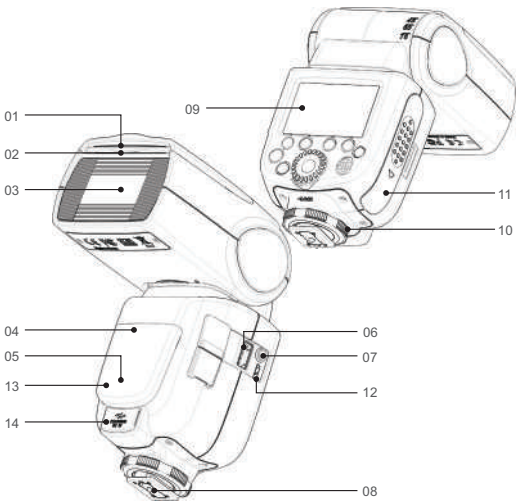
- 此使用说明书中的操作步骤假定相机和闪光灯的电源开关已开启。
- 参考页码由(第**页)表示。
- 此使用说明书中使用以下警告符号：

⚠ 该“小心”符号表示避免出现拍摄问题的警告。

该“注意”符号提供补充信息。

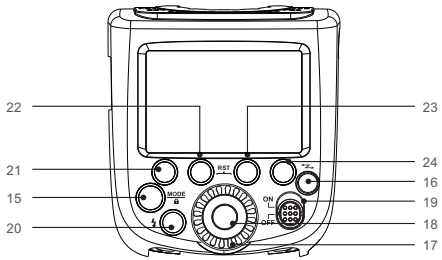
目录

部件名称



● 机身

01. 眼神光板
02. 内置广角散光板
03. 闪光灯头
04. 无线传感器
05. 辅助对焦灯
06. 无线控制插座
07. 同步插孔
08. 热靴
09. 点阵液晶显示屏
10. 固定旋钮
11. 电池仓
12. USB端口
13. 从属单元状态指示灯
14. 外部电源插槽

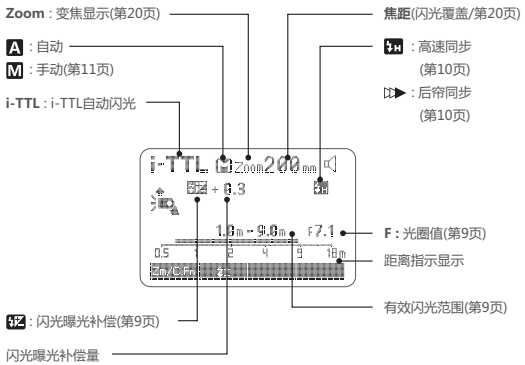


● 控制面板

15. <**MODE**>闪光模式选择按钮
16. < ⁺Z₊ >无线按钮
17. 调节旋钮
18. <**SET**>设置按钮
19. ON/OFF电源开关
20. < ϟ >试闪按钮/回电指示灯
21. 功能按钮1
22. 功能按钮2
23. 功能按钮3
24. 功能按钮4

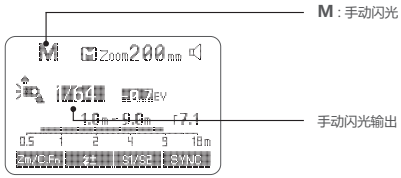
● LCD液晶显示屏

(1)i-TTL自动闪光

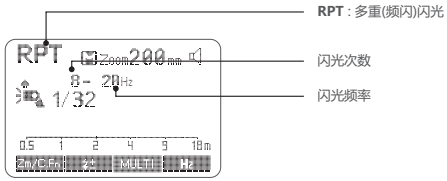


> ● 显示屏将只显示当前应用的设置。
> ● 在功能按钮1至功能按钮4上方显示的功能(如< SYNC >和 < ϟ± >)根据设置的状态发生变化。
> ● 当操作按钮或拨盘时，液晶显示屏点亮。

(2)M手动闪光

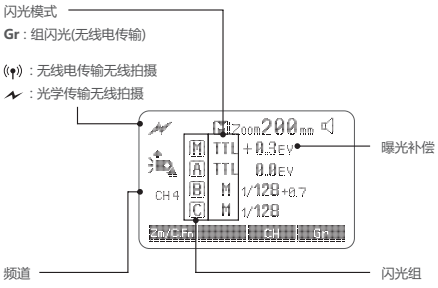


(3)RPT频闪闪光

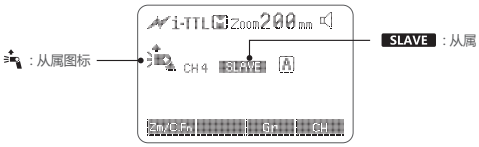


(4)无线电传输拍摄/光学传输无线拍摄

● 主控单元



● 从属单元



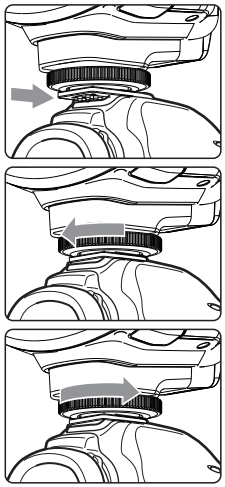
● 标配物品

1、灯体　**2**、微型底座　**3**、保护包　**4**、说明书

● 可选购附件

可搭配本公司以下摄影附件使用，以获得最佳的拍摄效果和使用体验：**X1N TTL引闪器、FT-16S功率遥控器、迷你柔光箱、反光板、蜂巢、色片、束光布**等。

装卸闪光灯



1 安装闪光灯。
- 滑动闪光灯固定座使其完全插入相机的热靴插座。

2 拧紧闪光灯。
- 旋转固定座上的锁定旋钮，直到锁定闪光灯。

3 取下闪光灯。
- 旋转固定座上的锁定旋钮，直到闪光灯解除锁定。

电源管理

* ON/OFF电源开关控制该产品的打开和关闭，长时间不使用时请关闭电源。本产品设计有电源自动关闭功能。作为主控单元在长时间（约90秒）无人操作时，闪光灯会自动关闭，半按快门按钮或机身任意键唤醒；作为从属单元在60分钟（或者选择30分钟）无任何操作时，闪光灯会进入休眠状态，此时可按机身任意键唤醒。

C.Fn 离机使用时，建议通过自定义功能使“自动关闭电源”无效。(C.Fn-APO 第21页）

C.Fn “从属单元自动关闭电源计时器”出厂默认设置为60分钟，也可自定义选择30分钟。(C.Fn-SvAPOT 第21页）

闪光模式：i-TTL自动闪光模式

该闪光灯有**i-TTL**自动闪光，**M**手动闪光，**RPT**频闪闪光三种模式。在**i-TTL**模式下，相机的测光系统会侦查从主体反射回来的闪光照明，从而自动调节闪光输出量，使主体和背景得到均衡曝光。支持曝光补偿、高速同步、第二帘快门同步、光圈预览造影闪光等功能。

***** 按下< **MODE** >模式选择按钮，三种闪光模式将会依次出现在液晶屏上。

i-TTL模式

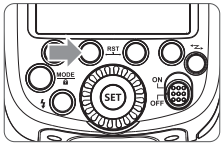
通过按< **MODE** >模式选择按钮，将闪光灯设置为<**i-TTL** >，可以使闪光灯进入i-TTL模式。

- 半按相机快门按钮进行对焦，光圈值和有效闪光范围将会显示在显示屏上。
- 在快门释放前的瞬间进行一次预闪，闪光灯接收相机信息进行主闪光。

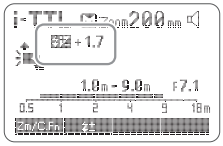
闪光曝光补偿

该闪光灯可以在±3档间以1/3档为增量调节闪光曝光补偿。由于环境的需求而需要微调TTL系统时，这个功能非常有用。

设置闪光曝光补偿：

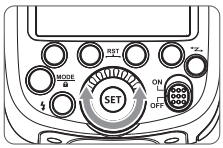


1 按下功能按钮2< ± >，令屏幕显示< 闪光曝光补偿 >图标，并且闪光曝光补偿量被突出显示



2 设置闪光曝光补偿量。

- 转动调节旋钮设置曝光补偿量。
- "0.3"表示1/3档，"0.7"表示2/3档。
- 要取消闪光曝光补偿，将闪光曝光补偿量设为"+0"。

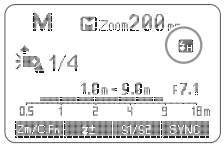


3 按下< **SET** >设置按钮，确定闪光曝光补偿。

高速同步

使用高速同步(FP闪光)，您可以在所有的快门速度下同步使用闪光灯。高速同步模式下，使用光圈优先对人像进行填充闪光时特别方便。

选择高速同步< 高速同步 >。

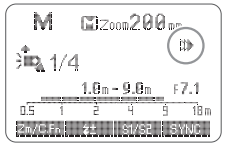


- 在尼康相机机身设置中，将闪光同步速度设置为1/320秒(自动FP)或1/250秒(自动FP)，半按快门键，闪光灯屏幕显示高速同步< 高速同步 >图标。此时闪光灯高速同步功能启动。
- 转动相机拨盘，快门速度能设置为1/250s或更高的快门速度。
- 要确认目前是否正在使用FP高速同步功能，通过相机取景器检查快门速度即可判断。如果快门速度为1/250s或更高，表示高速同步功能启动。

- 如果在尼康相机机身设置中，将闪光同步速度设置为1/320秒(自动FP)或1/250秒(自动FP)，无论实际的快门速度是多少，闪光灯屏幕上的< 高速同步 >图标都会显示。
- 使用高速同步时，快门速度越高，有效的闪光范围就越小。
- 要恢复普通闪光，请在尼康相机机身设置中，将闪光同步速度设置为非(自动FP)选项，半按快门时，闪光灯屏幕上的< 高速同步 >图标会消失。
- 在高速同步模式下，无法设置频闪闪光。
- 连续高速同步闪光15次后，闪光灯热保护功能可能会被激活。

第二帘快门同步

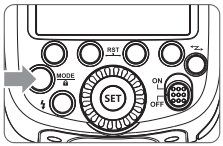
使用慢速快门，您可以在被摄体后创建一条光线轨迹。在快门关闭前的瞬间闪光灯闪光。



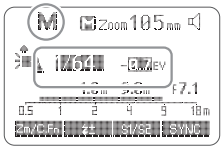
- 在尼康相机机身设置中，选择Rear闪光方式，半按快门键，闪光灯屏幕显示后帘同步<▯▶>图标。
- 在尼康相机机身设置中，选择 非Rear闪光方式，半按快门键，闪光灯屏幕上的后帘同步<▯▶>图标不再显示。

闪光模式：**M** 手动闪光

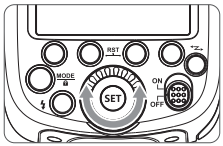
您可以在1/128功率至1/1全功率间以1/3档为增量设置闪光输出。
为获得正确的闪光曝光，请使用手持的闪光测光表确定所需的闪光输出。



1 按<**MODE**>模式选择按钮，屏幕显示<**M**>。



2 转动调节旋钮设置闪光输出功率。



3 按下<**SET**>设置按钮，确定闪光输出功率。

显示闪光输出

拍摄过程中更改闪光输出时，下表将清楚地显示光圈值是如何更改的，如1/2-0.3→1/2+0.3。您可以在增加或减少闪光输出时查看光圈值的更改规律。
例如，将闪光输出量减少至1/2、1/2-0.3或1/2-0.7，然后再将其增加至大于1/2、1/2+0.3、1/2+0.7时，将显示1/1。

减少闪光输出指数→

1/1	1/1–0.3	1/1-0.7	1/2	1/2-0.3	1/2-0.7	1/4	·····
	1/2+0.7	1/2+0.3		1/4+0.7	1/4+0.3		·····

←增加闪光输出指数

S1光控单元设置

在**M**手动闪光模式下，按<S1/S2>可以使用**S1**功能，闪光灯可作为副灯使用，创造多种照明效果，适用于手动闪光环境。它会与主闪光灯的第一次闪光同步触发闪光，效果与使用无线引闪器一致。

S2光控单元设置

在**M**手动闪光模式下，按<S1/S2>可以使用**S2**功能，闪光灯可作为副灯使用，适用于TTL闪光环境。具有防预闪功能，使用带一次预闪功能的相机能用光控实现同步拍摄。它会与主闪光灯的第二次闪光同步触发闪光，即2次光控引闪。

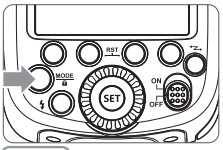
手动离机高速设置

在M手动闪光模式下，按 **SYNC** 选择高速模式，显示 **H** 。此时引闪，会进行高速闪光。

- 只有在**M**模式下才支持**S1/S2**光控引闪模式。

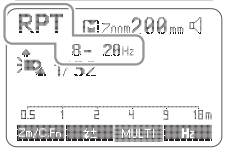
闪光模式：**RPT** 频闪闪光

使用频闪闪光，可以发出一系列快速的闪光。它可以在一张照片上拍摄移动物体的多个图像。
您可以设置闪光频率(每秒的闪光次数，以Hz表示)、闪光次数和闪光输出。

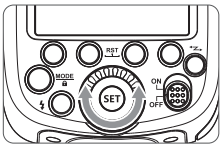


1 按<**MODE**>闪光模式选择按钮，屏幕显示<**RPT**>。

2 转动调节旋钮设置闪光输出功率。



3 设置闪光频率和闪光次数。
- 按功能按钮3< **MULTI** >选择闪光次数，旋转调节旋钮设定数字。
- 按功能按钮4< **Hz** >选择闪光频率，旋转调节旋钮设定数字。
- 按下<SET>设置按钮确定，所有设置都将显示出来。



计算快门速度

在频闪闪光过程中，到闪光停止为止快门应保持开启状态。使用下面的公式计算快门速度，然后用相机进行设置。

闪光次数/闪光频率 = 快门速度

例如，如果闪光次数是10，闪光频率是5Hz，快门速度则至少为2秒。

⚠ 为防止闪光灯头过热并损坏，请勿执行连续10次以上的频闪闪光连拍。闪光10次后，请让闪光灯至少冷却15分钟。如果您试图执行连续10次以上的频闪闪光连拍，为防止闪光灯头过热，闪光可能自动停止。如果发生了这种情况，请让闪光灯至少冷却15分钟。

- 反光很强的被摄体在暗背景前使用频闪闪光更加有效。
- 推荐使用三脚架和遥控开关。
- 闪光输出为1/1和1/2时不能设置频闪闪光。
- 频闪闪光时也可以使用“**buLb**”。
- 如果闪光次数显示为--，则闪光灯会连续闪光，直到快门或电池耗尽。如下表所示，闪光次数将受到限制。

最大频闪闪光次数

闪光输出 \ Hz	1	2	3	4	5	6-7	8-9
1/4	7	6	5	4	4	3	3
1/8	14	14	12	10	8	6	5
1/16	30	30	30	20	20	20	10
1/32	60	60	60	50	50	40	30
1/64	90	90	90	80	80	70	60
1/128	90	90	90	90	90	90	80

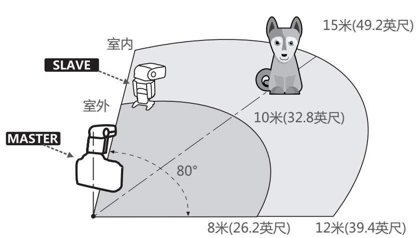
闪光输出 \ Hz	10	20-50	60-100			
1/4	2	2	2			
1/8	4	4	4			
1/16	8	8	8			
1/32	20	16	12			
1/64	50	30	20			
1/128	70	40	40			

无线闪光拍摄：光学传输

该产品支持尼康创意闪光系统(CLS)，具备无线闪光功能，具有主控闪光和从属闪光功能。作为主控单元，可以控制并引闪SB-900、SB-910等尼康闪光灯。作为从属单元，受控SB-900、SB-910闪光灯无线信号和D7100/D7000/D800等相机内闪指令，从而实现无线闪光。

- 通过此款产品，支持创建三个从属单元组，并实现i-TTL自动闪光。您可以通过i-TTL自动闪光轻松获取多种照明效果。
- 使用主控单元按组分别设置的任何i-TTL自动闪光，手动闪光和频闪闪光设置都会被自动传输到从属单元。因此，在拍摄时无需操作从属单元。只需在主控单元上对每个从属组进行单独设置就可完成。
- 将此产品设置为主控单元时，可以在**i-TTL/M/RPT/OFF**四种闪光模式下工作。

主控单元/从属单元设置位置和范围

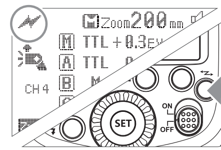


> - 即使有多个从属单元，主控单元也可通过无线控制所有的闪光灯。
> - 本说明手册中，“主控单元”指安装在相机上的闪光灯，“从属单元”指通过无线控制的闪光灯。

1、无线设置

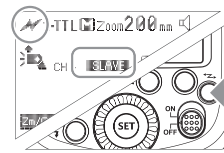
您可以在普通闪光和无线闪光之间切换。对于普通闪光，请务必将无线设置设为“关”。

主控单元设置



按下< ⇄ >无线设置按钮，令屏幕显示< ⚡ >和< ⚡ **RPT** >。此时背光显示绿色。

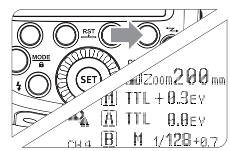
从属单元设置

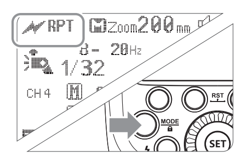


按下< ⇄ >无线设置按钮，令屏幕显示< ⚡ >和< **SLAVE** >。此时背光显示橙色。

2、设置主控闪光灯的闪光模式

在禁用主控单元闪光模式下，只有从属单元的闪光灯闪光。



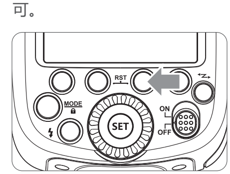


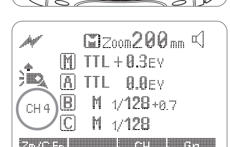
1 按功能按钮4< Gr >选择M/A/B/C组别，再按功能按钮3< MODE >，选择主控单元的闪光模式可以在**OFF/i-TTL/M**之间进行切换，选择其中一种作为主控单元的闪光模式。

2 按“MODE/锁定”按钮可切换至RPT模式。

3、设置通讯频道

如果在拍摄现场不止一个无线闪光系统，您可以通过更改通讯频道来防止信号干扰。保证主控单元和从属单元设置为相同的频道编号即可。





1 按下功能按钮3< CH >，旋转调节旋钮从1至4中选择频道。

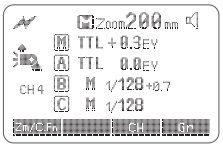
2 按下<**SET**>设置按钮确定。

4、无线ID设置

为了避免信号干扰，除了改变无线通讯频道还可以通过改变无线ID来防止干扰；主控单元和从控单元设为相同的频道和无线ID即可。进入C.Fn ID,选择01-99其中任意一数无线ID打开，选OFF无线ID关闭。

5、i-TTL: 全自动无线闪光拍摄

使用一个从属单元闪光

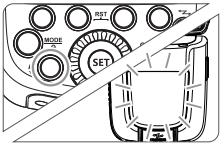


1 **设置主控单元。**
- 将安装在相机上的T685N设为主控单元。(第14页)
- M/A/B/C都可独立设置为TTL。

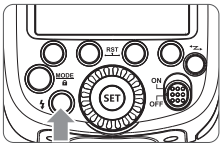
2 **设置从属单元。**
- 将要被无线控制的T685N设为从属单元。(第14页)
- 可以选择A/B/C。

3 检查传输频道。
- 将主控单元和从属单元的频道设为一致。(第14页)

4 定位相机和闪光灯。
- 将其定位在(第13页)所示的范围内。



5 检查闪光灯是否准备就绪。
- 检查主控闪光灯就绪指示灯点亮。
- 当从属闪光灯就绪时，自动对焦辅助光发光区域以1秒间隔闪烁。



6 检查操作。
- 按下主控闪光灯的试闪按钮< ϟ >。
- 从属单元闪光。如果从属单元不闪光，检查是否将其放置在操作范围内。

⚠ 如果从属单元附近有荧光灯或电脑显示器，这些光源的存在可能会导致从属单元发生故障，并导致其意外闪光。

- 如果从属单元的自动关闭电源生效，按主控单元的测试闪光按钮打开从属单元。请注意在相机的测光定时工作期间，无法进行测试闪光。
- 可以改变到从属单元的自动关闭电源生效为止的时间(C.Fn-Sv APOT/第21页)。
- 可以进行设置以使自动对焦辅助发射器在从属单元回电完毕时不闪烁(C.Fn-AF/第21页)。

使用全自动无线闪光

在主控单元上设定的闪光曝光补偿和其他设置也会在从属单元中自动设定。不需要操作从属单元。可按照与普通闪光拍摄相同的方法使用以下设置进行无线闪光拍摄。

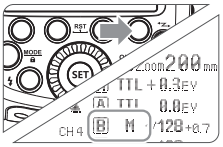
- 闪光曝光补偿(ϟ± /第09页)
- 高速同步(SYNC /第10页)

关于主控单元

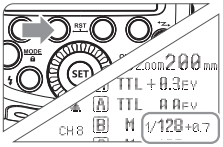
可以使用两个或两个以上主控单元。通过准备多台装有主控单元的相机，可以在保持相同照明(从属单元)期间更换相机进行拍摄。

6、M: 手动无线闪光拍摄

使用手动闪光的无线(多重闪光)拍摄，可以为每个从属单元(闪光组)设定不同的闪光输出进行拍摄。在主控单元上设定所有参数。



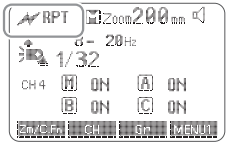
1 **将闪光模式设为<M>。**
- 按下功能按钮4< Gr >选择组别，再按功能按钮3< MODE >设定为**M**模式。



2 **设置闪光输出**
- 在选择组别状态下，按功能按钮2< ϟ± >选择功率设定，旋转调节旋钮为闪光组设定闪光输出，并按<**SET**>设置按钮确定。

3 **拍摄照片**
- 各组以设定的闪光光比闪光。

7、RPT: 手动无线闪光拍摄



1 **设定<RPT>频闪模式。**
- 按下<**MODE**>模式选择按钮令屏幕显示<RPT>
- 设定频闪闪光设置。(第12页)

⚠ 可以在1Hz至100Hz之间设定光学无线传输拍摄期间的频闪闪光的闪光频率。

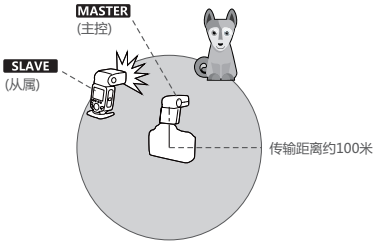
无线闪光拍摄：无线电(2.4G)传输

使具有无线电传输无线拍摄功能的闪光灯(主控/从属)，可按照与普通**i-TTL**自动闪光拍摄同样的方法，轻松利用高级无线多重闪光照明进行拍摄。

基本相对位置和操作范围如图所示，只要将主控单元设定为<**i-TTL**>就可以进行无线自动闪光拍摄。

定位和操作范围(无线闪光拍摄的示例)

● 使用一个从属单元进行自动闪光拍摄(第15页)

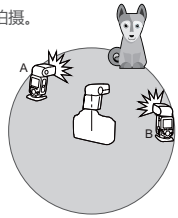


● 使用附带的微型支架定位从属单元。
● 开始拍摄前请进行测试闪光和试拍。
● 受从属单元的位置、周围环境、天气状况等影响，传输距离可能更短。

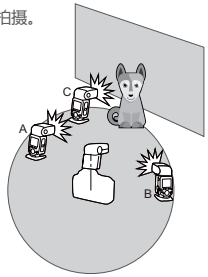
无线多重闪光拍摄

可以将从属单元分割为两个或三个组同时进行**i-TTL**自动闪光拍摄。此外，可以为各闪光组(最多5个组)设定并用不同的闪光模式拍摄。

● 用两个从属组进行自动闪光拍摄。



● 用三个从属组进行自动闪光拍摄。



无线电传输比光学传输的拍摄具有优势，距离更远，耗电更少，受障碍物的影响更小。无线电传输和光学传输的差异：

功能	无线电传输	光学传输
传输距离	100m	15m
频道	1~32	1~4
受干扰程度	难	易

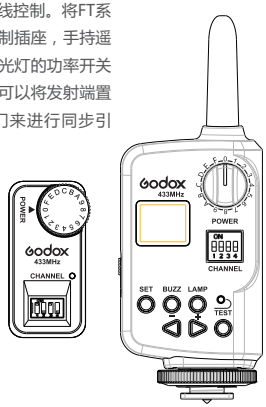
⚠ 神牛2.4G无线漏闪原因及解决办法

1. **外部环境2.4G信号干扰(如无线基站、2.4Gwifi路由、蓝牙设备等)**
   → 请调节引闪器的频道CH设置(建议+10)，找到无干扰的频道来工作，或者在工作时关闭其他2.4G设备。
2. **请确认闪光灯是否已经回电或者回电速度已经跟上连拍速度(闪光灯就绪指示灯已经亮起)，并且没有处于过热保护或者其他异常状态中**
   → 请下调闪光灯的档位，如是TTL模式可以尝试改为M模式(TTL模式下需要预闪一次)。
3. **是否引闪器和闪光灯距离太近(距离<0.5m)**
   → 请在引闪器上打开“近距离无线模式”：
   X1系列：按住引闪按钮不放，然后开机，直至指示灯闪2次。
   Xpro系列：设置C.Fn-DIST为0-30m。
4. **是否引闪器和接收端设备在低电状态**
   → 请更换电池(引闪器电池建议使用1.5V一次性碱性电池)。

其他应用

外置无线控制功能

闪光灯内置无线控制插座，配合特定遥控器使用，您可以实现对闪光灯的无线控制。将FT系列遥控器的接收端插入无线控制插座，手持遥控器发射端，即可远程控制闪光灯的功率开关和大小、闪光灯触发等。您也可以将发射端置于相机热靴上，通过相机快门来进行同步引闪。



● 更多遥控器的使用方法，请查阅FT系列遥控器的说明书。

同步插孔触发

同步插孔规格为Φ3.5mm，此处可插入同步线或者触发器触发插头对闪光灯进行同步引闪。

造型闪光

如果相机有景深预视按钮，按下该按钮将会进行1秒钟的连续闪光，这种现象称之为造型闪光。您可以通过造型闪光查看被摄体上的光影效果及照明平衡，不管是无线拍摄还是普通闪光拍摄，都可以进行造型闪光。

⚠ ● 请勿连续触发10次以上造型闪光。如果连续进行10次造型闪光，请让闪光灯至少冷却10分钟，以防止闪光灯头过热或损坏。

自动辅助对焦灯

在低亮度或低对比度的拍摄情况下，闪光灯内置的自动对焦辅助灯将开启，使自动对焦更容易。当对焦困难时，红色辅助对焦灯亮起；当对焦准确，辅助对焦灯自动熄灭。

如想关闭自动辅助对焦功能，在C.Fn设置“AF”至“OFF”。

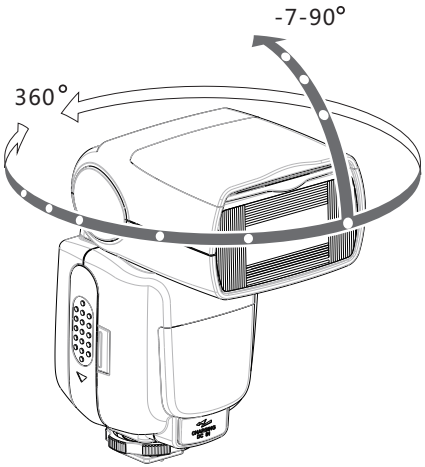
- 用户在使用时，如发现辅助对焦灯未亮起，是因为相机已经处于准确对焦状态。

位置	有效范围
中央	0.6~10米 / 2.0~32.8英尺
边缘	0.6~5米 / 2.0~16.4英尺

反射闪光

通过将闪光灯头指向墙壁或天花板，闪光在照亮被摄体前被墙面反射。这可以减轻被摄物体背后的阴影，获得更自然的摄影效果。称之为反射闪光。

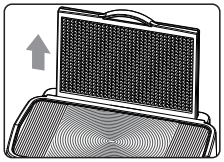
旋转闪光灯头来设置反射方向。



- 如果墙壁或天花板太远，反射闪光可能太弱并导致曝光不足。
- 墙壁或天花板应该是平坦的、白色的以利于高效的反射。如果反射表面不是白色的，照片将出现偏色。

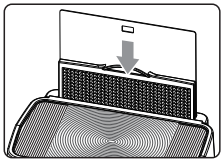
创建眼神光

使用眼神光板，您可以在被摄体的眼睛中创建眼神光以使面部表情更加生动。



1 将闪光灯头向上旋转90°。

2 拉出广角散光板，同时弹出眼神光板。

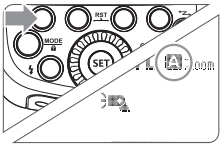


3 推入广角散光板。
- 仅推入广角散光板。
- 按照反射闪光中相同的步骤进行。

- 请将闪光灯头向前指然后向上旋转90度。如果左右旋转闪光灯头就不会产生眼神光。
- 要获得最好的眼神光效果，被摄体不能处于相机1.5米/4.9英尺以内。

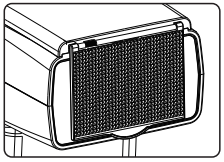
ZOOM：设置闪光覆盖范围并使用广角散光板

该闪光灯有两种变焦方式：自动变焦和手动变焦。可以设置闪光覆盖范围以匹配20-200毫米的镜头焦距。自动变焦时，焦距会随相机变焦镜头的改变而变化，以提供最佳闪光效果。同样，使用内置的广角散光板，闪光覆盖范围可以扩展为14毫米广角镜头。



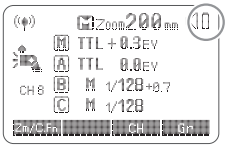
手动变焦时，按下<ZOOM/C.FN>变焦/无线设置按钮。
- 转动调节旋钮更改闪光覆盖范围。
- 在显示< A >状态下，将自动设置闪光覆盖范围。

- 如果手动设置闪光覆盖范围，确保其覆盖镜头焦距，这样照片就不会出现阴影边缘。



使用广角散光板

拉出广角散光板并将其置于闪光灯头上。闪光覆盖范围将扩展至14毫米。
- 同时弹出眼神光板。请推回眼神光板。
- <**ZOOM/C.FN**>按钮不起作用



电池电量低时，电池符号< > 会闪烁，此时请更换电池。

C.Fn：设置自定义功能

请对照以下图表本机应用栏，使用自定义功能来完成设置。

自定义功能符号	功能	设置符号	设置和说明
m/ft	距离指示显示	m	米
		ft	英寸
APO	自动关闭电源	ON	启动
		OFF	关闭
AF	自动对焦辅助光闪光	ON	启动
		OFF	关闭
Sv APOT	从属单元自动关闭电源计时器	60min	60分钟
		30min	30分钟
BEEP	蜂鸣器	ON	启动
		OFF	关闭
LIGHT	背光点亮时间	12sec	12秒后自动熄灭
		OFF	一直熄灭
		ON	一直点亮
LCD	液晶屏对比度	0~9	10个级别
ID	无线ID	OFF	关闭
		01-99	选择01-99任意一个数字打开
Sv LED	无线LED提示灯	OFF	关闭
		ON	打开

1. 长按< **Zm/C.Fn** >背光/自定义按钮2秒或更长，直到显示C.Fn菜单。右上角“Ver x.x”表示软件版本号。
2. 选择自定义功能符号。
   - 旋转调节旋钮设置自定义功能。
3. 更改设置。
   - 按 < **SET** > 设置按钮，自定义功能编号闪烁。
   - 旋转调节旋钮设置想要的编号，按 < **SET** > 按钮确定。
   - 设置自定义功能后按下 < **MODE** > 模式选择按钮，相机可以进行拍摄。
4. 在C.Fn状态下，长按“Clear”按钮2秒直至出现“OK”，表示重置C.Fn的参数。

保护功能

1. 热保护

- 为防止闪光灯头过热并损坏，请勿在1/1功率时进行超过30次的快速连续闪光。30次连续闪光后，要让闪光灯至少冷却10分钟。
- 如您在进行超过30次连续闪光后马上继续进行更多次闪光，内部的防过热功能可能会被激活，使充电时间变为10秒以上。如果发生这种现象，请让闪光灯冷却约10分钟，闪光灯便会恢复正常。
- 热保护启动后，显示屏上 的符号会显示。

激活热保护功能的连续闪光次数：

功率	次数
1/1	30
1/2 +0.7	40
1/2 +0.3	50
1/2	60
1/4(+0.3,+0.7)	100
1/8(+0.3,+0.7)	200
1/16(+0.3,+0.7)	300
1/32(+0.3,+0.7)	500
1/64(+0.3,+0.7)	1000
1/128(+0.3,+0.7)	

高速同步模式下，激活热保护功能的连续闪光次数：

功率	次数
1/1	15
1/2(+0.3,+0.7);	20
1/4(+0.3,+0.7)	30
1/8(+0.3,+0.7);	
1/16(+0.3,+0.7)	40
1/32(+0.3,+0.7);	
1/64(+0.3,+0.7);	50
1/128(+0.3,+0.7);	

2. 其他保护

- 为了保证设备安全的工作，系统时刻进行预防保护，以下提示符号供您参考：

LCD显示	警示内容
E1	**闪光灯回电系统出现问题，无法回电引闪，请重新开机，如无法**解决请维修
E2	设备内温度过高，请停止引闪10分钟
E3	闪光灯管两端电压过高，请维修
E9	固件升级有误，请进行正确固件升级

规格参数

型号		TT685N
• 类型		
兼容相机		Nikon尼康数码单镜反光照相机(i-TTL自动闪光)
闪光指数 (1/1档位；200mm焦距)		60(m ISO 100) 190(feet ISO 100)
闪光覆盖范围		20 – 200毫米
		•自动变焦(自动设置适合镜头焦距和图像尺寸的闪光覆盖范围)
		•手动变焦
		•闪光灯头旋转/倾斜，水平0~360°， 垂直-7°~90°(反射闪光)
闪光持续时间		1/300秒 - 1/20000秒
• 曝光控制		
曝光控制系统		i-TTL 自动闪光、手动闪光
闪光曝光补偿(FEC)		手动，闪光包围曝光：在±3档间以1/3档为增量调节 (可以组合使用手动闪光曝光补偿和闪光包围曝光)
同步方式		高速同步(最高1/8000秒)，前帘同步，后帘同步
频闪闪光		具备(次数：90次；100Hz)
• 无线闪光(光学传输和无线电2.4G传输)		
无线功能		主控单元，从属单元，关闭
可控制从属单元组		3组：A, B, C
传输范围(约)	光学	室内：12～15米/39.4~49.2英尺 室外：8~10米/26.2~32.8英尺 接收角度：水平±40°，垂直±30°
	2.4G	100m
频道	光学	4组：1, 2, 3, 4
	2.4G	32组：1~32
从属单元状态指示灯		两红灯同时亮起
造型闪光		使用相机的景深预视按钮进行闪光
• 自动对焦辅助光		
有效范围(约)		中央：0.6 -10米 / 边缘：0.6-5米
• 电源		
AA型电池		镍氢电池(推荐)或LR6类型碱性电池*4节
回电时间		约0.1-2.6秒(松下eneloop镍氢电池)，闪光灯准备就绪，LED红色指示灯亮起
全功率闪光次数		约230次(2500mA镍氢电池)
节能		闪光灯在无人操作90秒左右将会自动关闭电源。 设置为从属单元时60分钟进入休眠状态。
• 同步触发方式		热靴，3.5mm同步线，无线控制插座
• 色温		5600±200k
• 尺寸		
体积		64 *76*190 mm
净重(不含电池)		410g
重量(含电池)		530g

故障排除指南

如果遇到问题，请参阅此故障排除指南。

闪光灯不充电。

- 电池安装方向错误。
  →以正确的方向安装电池。
- 闪光灯的内置电池耗尽。
  →如果闪光灯屏幕上< [] >显示并闪烁，表明需要更换电池。

闪光灯不闪光。

- 闪光灯没有牢固地安装在相机上。
  →将闪光灯的固定座牢固地安装在相机上。
- 闪光灯和相机的电子触点变脏。
  →请清洁触点。

电源自动关闭。

- 当灯作为主控单元时，90秒无操作后，自动电源关闭功能生效。
  →半按快门按钮或机身任意按键唤醒。
- 作为从属单元在60分钟(或者选择30分钟)无任何操作时，闪光灯会进入休眠状态。
  →可按机身任意按键唤醒。

自动变焦不工作。

- 闪光灯没有牢固地安装在相机上。
  →将闪光灯的固定座牢固地安装在相机上。

闪光曝光不足或过度。

- 使用高速同步。
  →使用高速同步，有效的闪光范围会更小。确保被摄体位于显示的有效闪光范围内。
- 闪光灯使用手动曝光模式。
  →改为**i-TTL**模式或修改闪光输出功率设置。

相片出现暗角或者被摄物体只有局部能照亮。

- 相机镜头焦距超出闪光灯的覆盖范围。
  →请检查闪光灯当前的覆盖焦距。本产品的灯头变焦范围是中画幅系统的20-200mm，您可以尝试拉出广角闪光板，以扩大闪光范围。

固件升级

本机通过USB插座可进行固件升级。软件最新公告及说明将会发布在官方网站上。

注：本品出厂不配USB升级线，请另行购买。普通的USB线可使用，本产品USB口为Micro USB 接口。

兼容相机列表

本机可兼容以下Nikon数码单镜反光照相机型号：

D800	D700	D7100	D7000	D5200	D5100	D5000
D300	D300S	D3200	D3100	D3000	D200	D70S
D810	D610	D90				

注：

1. 此表格仅列举目前已测试的相机型号，未涵盖所有Nikon数码单镜反光照相机。其他相机型号，用户可自行测试。
2. 本公司保留未来修改此表格内容的权利。

维护保养

- 闪光灯在工作时，如发现异常，应立即关掉电源，查明原因。
- 灯体应避免震动，平时注意表面除尘。
- 灯体稍有发热为正常现象，无特别需要时，勿连续引闪。
- 闪光灯的所有维修概由本厂指定可供原厂配件之维修部负责。
- 1年保修，消耗品如灯管等，不在1年保修范围。
- 经发现，擅自检修此闪光灯的，将取消闪光灯之一年保修期，维修需要收取相关费用。
- 如果本品出现故障或者被水淋湿，在专业人员维修后方可继续使用。
- 如有技术更改，恕不另行通知。

Foreword

Thank you for purchasing this product.

This TT685N camera flash applies to Nikon DSLR series cameras and is compatible with i-TTL autoflash. With this i-TTL compatible flash, your shooting will become simpler. You can easily achieve a correct flash exposure even in complex light-changing environments. This camera flash features:

- GN60 (m ISO 100, @200mm). 22 steps from 1/1 to 1/128.
- Fully support Nikon i-TTL camera flash. Workable as Master or Slave unit in a wireless flash group.
- Use dot-matrix LCD panel to make clear and convenient operations.
- With built-in 2.4GHz wireless remote system to support transmitting and receiving.
- Provided multiple functions, include HSS (up to 1/8000s), FEC, etc.
- Use optional FT-16S to adjust flash parameters & trigger the flash.
- Stable consistency and color temperature with good even lighting.
- Support with firmware upgrade.

⚠ Warning

- ⚠ Always keep this product dry. Do not use in rain or in damp conditions.
- ⚠ Do not disassemble. Should repairs become necessary, this product must be sent to an authorized maintenance center.
- ⚠ Keep out of reach of children.
- ⚠ Stop using this product if it breaks open due to extrusion, falling or strong hit. Otherwise, electric shock may occur if you touch the electronic parts inside it.
- ⚠ Do not fire the flash directly into the eyes (especially those of babies) within short distances. Otherwise visual impairment may occur.
- ⚠ Do not use the flash unit in the presence of flammable gases, chemicals and other similar materials. In certain circumstance, these materials may be sensitive to the strong light emitting from this flash unit and fire or electromagnetic interference may result.
- ⚠ Do not leave or store the flash unit if the ambient temperature reads over 50℃. Otherwise the electronic parts may be damaged.
- ⚠ Turn off the flash unit immediately in the event of malfunction.

THINKLITE
Electronic Camera Flash

Thinklite **TTL** Camera Flash

Conventions used in this Manual

● This manual is based on the assumption that both the camera and camera flash's power switches are powered on.

● Reference page numbers are indicated by "p.**".

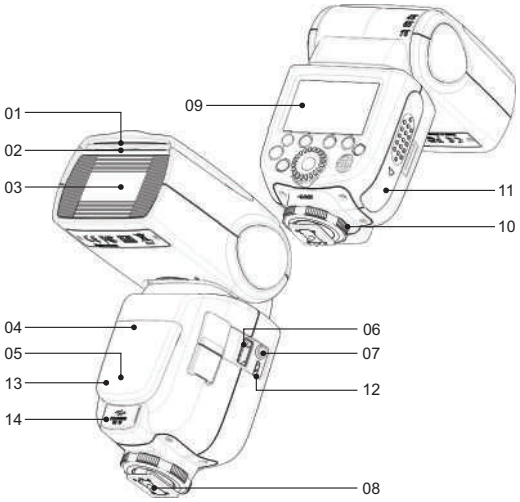
● The following alert symbols are used in this manual:

⚠ The Caution symbol gives supplemental information.

The Note symbol indicates a warning to prevent shooting problem.

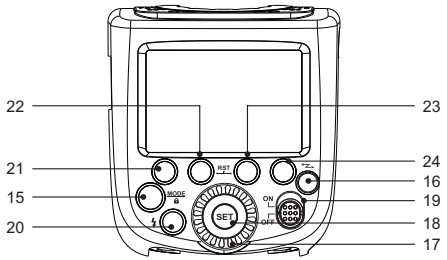
Contents

Name of Parts



● Body

01. Catchlight Panel
02. Built-in Wide Panel
03. Flash Head
04. Optic Control Sensor
05. Focus Assist Beam
06. Wireless Control Port
07. Sync Cord Jack
08. Hotshoe
09. Dot-marix LCD Panel
10. Lock Ring
11. Battery Compartment
12. USB Port
13. Slave Flash Ready Indicator
14. External Power Supply Socket

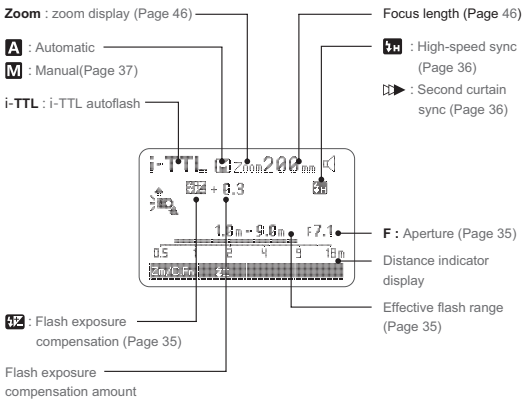


● Control Panel

15. <**MODE**> Mode Selection Button / Lock button
16. < >Wireless Selection Button
17. Select Dial
18. <**SET**> Set Button
19. ON/OFF Power Switch
20. < > Test Button / Flash Ready Indicator
21. Function Button 1
22. Function Button 2
23. Function Button 3
24. Function Button 4

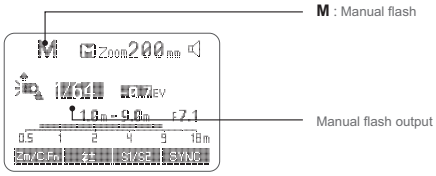
● LCD Panel

(1)i-TTL Autoflash

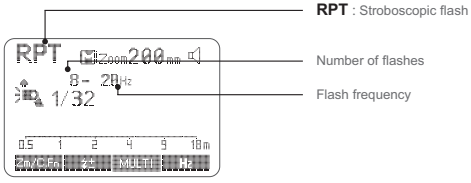


- The display will only show the settings currently applied.
- The functions displayed above function buttons 1 to 4, such as SYNC and , change according to settings' status.
- When a button or dial is operated, the LCD panel illuminated.

(2)M Manual Flash

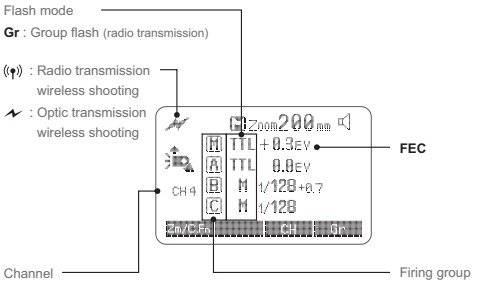


(3)Multi Flash

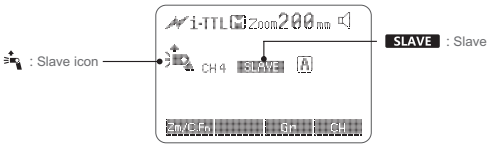


(4) Radio Transmission Shooting/Optic Transmission Shooting

● Master Unit



● Slave Unit



● What's in the Box of TT685N?

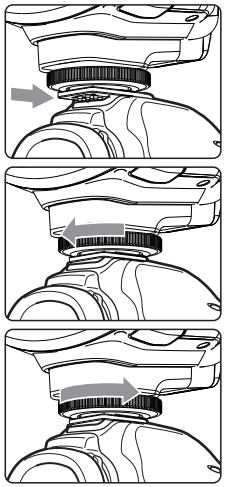
1. Flash unit **2.** Mini stand **3.** Protection case **4.** Instruction manual

● Separately Sold Accessories

The product can be used in combination with the following accessories sold separately, so as to achieve best photography effects:

X1N TTL wireless flash trigger, FT-16S power & trigger control, Mini softbox, White & Silver reflector, Honeycomb, Color gels, Snoot, etc.

Attaching to a Camera



1 Attach the Camera Flash.
- Slip the camera flash's mounting foot into the camera's hotshoe all the way.

2 Secure the Camera Flash.
- Rotate the lock ring on the mounting foot until it locks up.

3 Detach the Camera Flash.
- Rotate the lock ring on the mounting foot until it is loosened.

Power Management

Use ON/OFF Power Switch to power the flash unit on or off. Turn off if it will not be used for an extended period of time. Setting as a master flash, it will turn the power off automatically after a certain period (approx. 90 seconds) of idle use. Pressing the camera shutter halfway or pressing any flash button will wake up the flash unit. Setting as a slave flash, it will enter sleep mode after a certain period (adjustable, 60 minutes by default) of idle use. Pressing any flash button will wake it up.

C.Fn Disabling Auto Power Off function is recommended when the flash is used off camera. (C.Fn-APO, Page 47)

C.Fn Slave Auto Power Off Timer is set to 60 minutes by default. Another option "30 minutes" is available. (C.Fn-Sv APOT, Page 47)

Flash Mode — i-TTL Autoflash

This flash has three flash modes: **i-TTL**, Manual (**M**), and RPT (Stroboscopic). In **i-TTL** mode, the camera and the flash will work together to calculate the correct exposure for the subject and the background. In this mode, multiple TTL functions are available: FEC, HSS, second curtain sync, modeling flash, etc.

***** Press < **MODE** > Mode Selection Button and three flash modes will display on the LCD panel one by one with each pressing.

i-TTL Mode

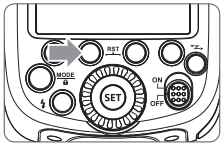
Press < **MODE** > Mode Selection Button to enter i-TTL mode. The LCD panel will display.

- Press the camera release button halfway to focus. The aperture and effective flash range will be displayed in the viewfinder.
- When the shutter button is fully pressed, the flash will fire a pre-flash that the camera will use to calculate exposure and flash output the instant before the photo is taken.

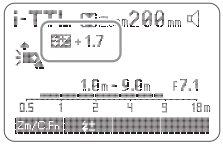
FEC: Flash Exposure Compensation

With FEC function, this flash can adjust from -3 to +3 in 1/3rd stops. It is useful in situations where minor adjusting of the TTL system is needed based on the environment.

Setting FEC:

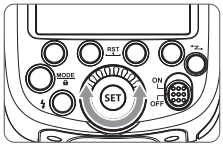


1 Press Function Button 2 < ±ϟ >. The icon < ϟ > and flash exposure compensation amount will be highlighted on the LCD panel.



2 Set the flash exposure compensation amount.

- Turn the Select Dial to set the amount.
- “0.3”means 1/3 step, “0.7”means 2/3 step.
- To cancel the flash exposure compensation, set the amount to “+0”.

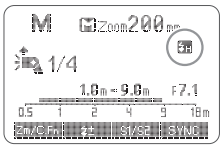


3 Press < **SET** > button again to confirm the setting.

High-Speed Sync

High Speed Sync (FP flash) enables the flash to synchronize with all camera shutter speeds. This is convenient when you want to use aperture priority for fill-flash portraits.

Select the high-speed sync icon < H >.

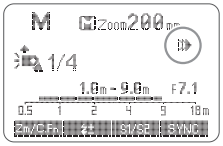


- Set the flash sync speed to 1/320s (Auto FP) or 1/250s (Auto FP) in the Nikon camera menu. Press the shutter button halfway. The icon < H > displayed on the flash screen means the high speed sync function is enabled on the flash.
- Turning the camera command dial can set the shutter speed to 1/250s or faster.
- To check if the FP flash function works properly, look through the shutter speed in the viewfinder. If it shows a speed of 1/250s or faster, the FP flash function is on work.

- If you set a shutter speed as 1/320s (Auto FP) or 1/250s (Auto FP) in the Nikon camera setting, < H > will be displayed in the flash screen regardless of practical shutter speed.
- With high-speed sync, the faster the shutter speed, the shorter the effective flash range.
- To return to normal flash, set the flash sync speed to other options other than Auto FP. Then the icon < H > will disappear when pressing the shutter halfway.
- Multi flash mode cannot be set in high-speed sync mode.
- Over-temperature protection may be activated after 15 consecutive high-speed sync flashes.

Second-Curtain Sync

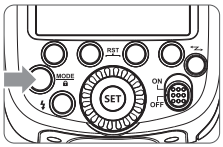
With a slow shutter speed, you can create a light train following the subject. The flash fires right before the shutter closes.



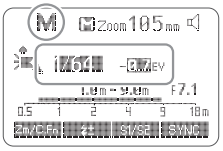
- Set the camera to Rear mode and press the shutter button halfway, then the flash display panel will show the second curtain sync icon < ⁋▶ >.
- When the camera is not set to Rear mode, pressing the shutter button halfway will not light up the icon < ⁋▶ > on the flash display panel.

Flash Mode — M: Manual Flash

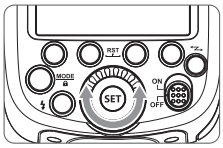
The flash output is adjustable from 1/1 full power to 1/128th power in 1/3rd stop increments. To obtain a correct flash exposure, use a hand-held flash meter to determine the required flash output.



1 Press < **MODE** > button so that < **M** > is displayed.



2 Turn the Select Dial to choose a desired flash output amount.



3 Press < **SET** > button again to confirm the setting.

Flash Output Range

The following table makes it easier to see how the stop changes in terms of f/stop when you increase or decrease the flash output. For example, when you decrease the flash output to 1/2, 1/2-0.3, or 1/2-0.7, and then increase the flash output to more than 1/2, 1/2+0.3, 1/2+0.7, and 1/1 will be displayed.

Figures displayed when reducing flash output level→

1/1	1/1-0.3	1/1-0.7	1/2	1/2-0.3	1/2-0.7	1/4	·····
	1/2+0.7	1/2+0.3		1/4+0.7	1/4+0.3		·····

←Figures displayed when increasing flash output level

Optic S1 Secondary Unit Setting

In M manual flash mode, press <**S1/S2**> button so that this flash can function as an optic S1 secondary flash with optic sensor. With this function, the flash will fire synchronously when the main flash fires, the same effect as that by the use of radio triggers. This helps create multiple lighting effects.

Optic S2 Secondary Unit Setting

Press <**S1/S2**> button so that this flash can also function as an optic S2 secondary flash with optic sensor in M manual flash mode. This is useful when cameras have pre-flash function. With this function, the flash will ignore a single “preflash” from the main flash and will only fire in response to the second, actual flash from the main unit.

Manual Off Camera High-speed Setting

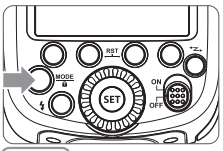
In M manual flash mode, press < **SYNC** > button to select high-speed mode and **H** is displayed.

- S1 and S2 optic triggering and off camera high-speed mode are only available in M manual flash mode.

Flash Mode — RPT: Stroboscopic Flash

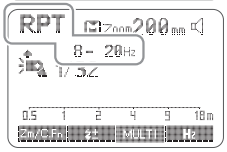
With stroboscopic flash, a rapid series of flashes is fired. It can be used to capture a multiple images of a moving subject in a single photograph.

You can set the firing frequency (number of flashes per sec. expressed as Hz), the number of flashes, and the flash output.



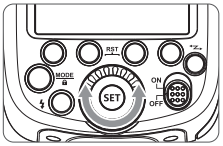
1 Press <**MODE**> button so that < **RPT** > is displayed.

2 Turn the Select Dial to choose a desired flash output.



3 Set the flash frequency and flash times.

- Press Function Button 3 < **MULTI** > button to select the item (blinks).
- Turn the Select Dial to set the number and press Function Button 4 < **Hz** > button again to confirm. The next item to be set will blink.
- After you finish the setting, press <**SET**> button and all the settings will be displayed.



Calculating the Shutter Speed

During stroboscopic flash, the shutter remains open until the firing stops. Use the formula below to calculate the shutter speed and set it with the camera.

Number of Flashes / Flash Frequency = Shutter Speed

For example, if the number of flashes is 10 and the firing frequency is 5 Hz, the shutter speed should be at least 2 seconds.

⚠ To avoid overheating and deteriorating the flash head, do not use stroboscopic flash more than 10 times in succession. After 10 times, allow the camera flash to rest for at least 15 minutes. If you try to use the stroboscopic flash more than 10 times in succession, the firing might stop automatically to protect the flash head. If this happens, allow at least 15 minutes’ rest for the camera flash.

- Stroboscopic flash is most effective with a highly reflective subject against a dark background.
- Using a tripod and a remote control is recommended.
- A flash output of 1/1 and 1/2 cannot be set for stroboscopic flash.
- Stroboscopic flash can be used with“**buLb**”.
- If the number of flashes is displayed as “--”, the firing will continue until the shutter closes or the battery is exhausted. The number of flashes will be limited as shown by the following table.

Maximum Stroboscopic Flashes:

Flash output \ Hz	1	2	3	4	5	6-7	8-9
1/4	7	6	5	4	4	3	3
1/8	14	14	12	10	8	6	5
1/16	30	30	30	20	20	20	10
1/32	60	60	60	50	50	40	30
1/64	90	90	90	80	80	70	60
1/128	90	90	90	90	90	90	80

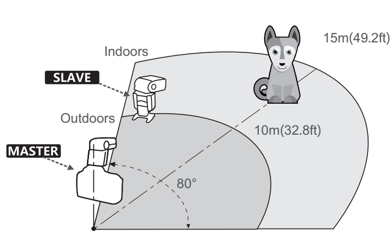
Flash output \ Hz	10	20-50	60-199			
1/4	2	2	2			
1/8	4	4	4			
1/16	8	8	8			
1/32	20	16	12			
1/64	50	30	20			
1/128	70	40	40			

Wireless Flash Shooting: Optic Transmission

This product is compatible with Nikon Creative Lighting System (CLS). It can function as either an optic wireless master or slave flash. As a master unit, it can control Nikon speedlights e.g. SB-900 and SB-910 via wireless. As a slave unit, it can be controlled by wireless signals of Nikon speedlights e.g. SB-900 and pop-up flash commanders of Nikon cameras e.g. D7100/D7000/D800.

- You can set up three slave groups for **i-TTL** autoflash shooting. With **i-TTL** autoflash, you can easily create various lighting effects.
- Any flash settings for the slave units on the master flash in **i-TTL / Manual / RPT** mode will be automatically sent to the slave units. So the only thing you need to do is to set the master unit for each slave group without any operation for the slave units at all during the shooting.
- This flash can work in **i-TTL / M / RPT / OFF** flash modes when set as a master unit.

Slave/Master Unit's Positioning and Operation Range

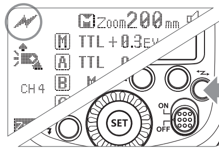


- Even with multiple slave units, the master unit can control all of them via wireless.
- In this user manual, “master unit” refers to the camera flash on a camera and “slave unit” will be controlled by the master unit.

1. Wireless Settings

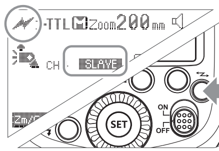
You can switch between normal flash and wireless flash. For normal flash shooting, be sure to set the wireless setting to OFF.

Master Unit Setting



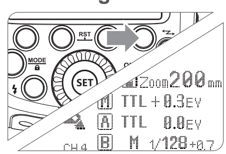
Press < > button so that < > is displayed on the LCD panel. If < **RPT**> is displayed, it means RPT mode is ON. The backlight turns green now.

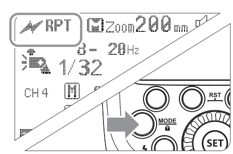
Slave Unit Setting



Press < > button again so that < > and < SLAVE > are displayed on the LCD panel. The backlight turns orange now.

2. Setting Master Unit's Flash Mode



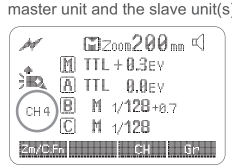


1 Press Function Button 4 < Gr > to choose the group from M/A/B/C. Then, press Function Button 3 < MODE > so that the master unit can work in OFF / i-TTL / M flash mode. Choose one of them as the flash mode of master unit.

2 Press the “MODE/Lock “button can change to RPT mode.

3. Setting the Communication Channel

If there are other wireless flash systems nearby, you can change the channel IDs to prevent signal interference. The channel IDs of the master unit and the slave unit(s) must be set to the same.



1 Press Function Button 3 < CH > and turn the Select Dial to choose a channel ID from 1 to 4.

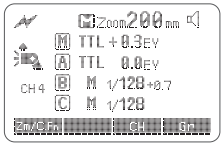
2 Press the <**SET**> button to confirm.

4. Wireless ID Settings

Change the wireless channels and wireless ID to avoid interference for it can only be triggered after the wireless IDs and channels of the master unit and the slave unit are set to the same.
Press the <MENU> button to enter C.Fn ID. Press the <SET> button to choose OFF channel expansion shutdown, and choose any figure from 01 to 99.

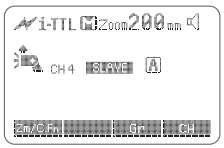
5. i-TTL: Fully Automatic Wireless Flash Shooting

Using Automatic Wireless Flash with a Single Slave Unit



1 Master Unit Setting

- Attach a TT685N camera flash on the camera and set it as the master Unit. (Page 40)
- M/A/B/C can be set as TTL mode independently.



2 Slave Unit Setting

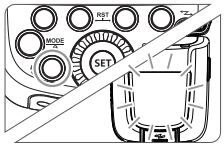
- Set the other camera flash as the wireless slave Unit. (Page 40)
- The slave unit can be set as A/B/C.

3 Check the communication channel.

- If the master unit and slave unit(s) are set to a different channel, set them to the same channel. (Page 40)

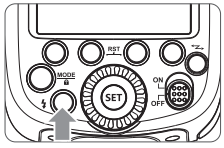
4 Position the camera and flashes.

- Position the camera and flashes as the picture shows. (Page 39)



5 Check that the flash is ready.

- Check that the master flash ready indicator is lightened.
- When the slave flash ready indicator is ready, the AF-assist beam lighting area will blinks at 1 second intervals.



6 Check the flash operation.

- Press the master unit's Test Button < ϟ >.
- Then, the slave unit will fire. If not, adjust the slave unit's angle toward the master unit and distance from the master unit.

⚠ The slave unit might be out of order or fire an unwanted flash due to the nearby fluorescent lamp or computer screen.

- If the slave unit's auto power off function is workable, press the master unit's test button to power it on. Please note that test firing is unavailable during the camera's regular metering time.
- The effective time of slave auto power off is changeable. (C.Fn-Sv APOT Page 47)
- By making some settings, the auto AF-assist transmitter will not blink after the slave unit's flash ready indicator is lightened. (C.Fn-AF Page 47)

Using Fully Automatic Wireless Flash

The FEC and other settings that set on the master unit will also be appeared on the slave unit automatically. The slave unit does not need any operation. Use the following settings to make wireless flashes according to the same methods with normal flash shooting.

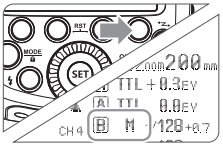
- Flash Exposure Compensation (ϟ± Page 35)
- High-Speed Sync (SYNC Page 37)

About Master Unit

Use two or more master units. By preparing several cameras that with master units flash attached, cameras can be changed in shooting while keeping the same lighting source (slave unit).

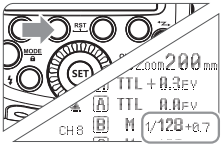
6. M: Wireless Flash Shooting with Manual Flash

This describes wireless (multiple shooting) using manual flash. You can shoot with a different flash output setting for each slave unit (firing group). Set all parameters on the master unit.



1 Setting the flash mode to <M>.

- Press Function Button 4 < Gr > to choose groups. Then, press Function Button 3 < MODE > to set the flash to **M** mode.



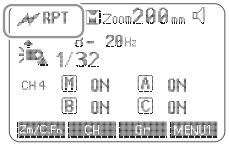
2 Setting flash output.

- Press Function Button 2 < ϟ± >. Turn the Select Dial to set the flash output of the groups. Press the <**SET**> button to confirm.

3 Taking the picture.

- Each group fires at the set flash ratio.

7. RPT: Wireless Flash Shooting with Manual Flash



Setting < RPT > stroboscopic flash.

- Press <**MODE**> button so that < RPT > is displayed.
- Setting the stroboscopic flash. (Page 38)

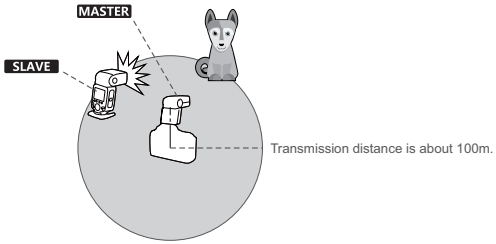
The firing frequency of stroboscopic flash during the optic transmission wireless shooting can be set from 1Hz to 100Hz (settings from 250 Hz to 500 Hz are not available).

Wireless Flash Shooting: Radio (2.4G) Transmission

Using a flash (master/slave) with a radio transmission wireless shooting function make it easy to shoot with advanced wireless multiple flash lighting, in the same way as i-TTL autoflash shooting. The basic relative position and operation range are as shown in the picture. You can then perform wireless i-TTL autoflash shooting just by setting the master unit to <**i-TTL**>.

Positioning and Operation Range (Example of wireless flash shooting)

● Autoflash Shooting with One Slave Unit

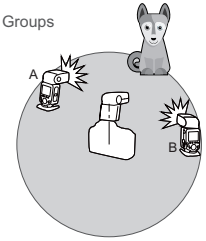


● Use the supplied mini stand to position the slave unit.
● Before shooting, perform a test flash and test shooting.
● The transmission distance might be shorter depending on the conditions such as positioning of slave units, the surrounding environment and whether conditions.

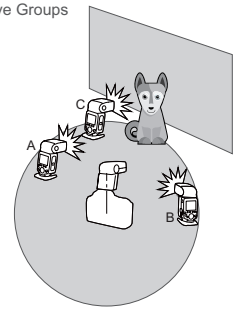
Wireless Multiple Flash Shooting

You can divide the slave units into two or three groups and perform i-TTL autoflash while changing the flash ratio (factor). In addition, you can set and shoot with a different flash mode for each firing group, for up to 5 groups.

● Auto Shooting with Two Slave Groups



● Auto Shooting with Three Slave Groups



Wireless shooting using radio transmission has advantages over wireless shooting using optic transmission, such as being less affected by obstacles, and not having to point the slave unit's wireless sensor toward the master unit. The main functional differences are as follows:

Function	Radio Transmission	Optic Transmission
Distance	100m	15m
Channel	1~32	1~4
To be disturbed	Hard	Easy

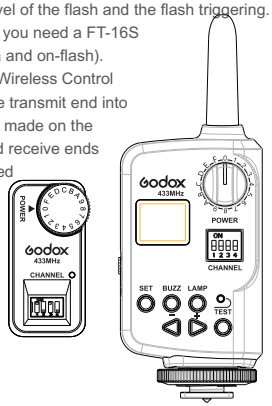
The Reason & Solution of Not Triggering in Godox 2.4G Wireless

1. **Disturbed by the 2.4G signal in outer environment (e.g. wireless base station, 2.4G wifi router, Bluetooth, etc.)**
   → To adjust the channel CH setting on the flash trigger (add 10+ channels) and use the channel which is not disturbed. Or turn off the other 2.4G equipment in working.
2. **Please make sure that whether the flash has finished its recycle or caught up with the continuous shooting speed or not(the flash ready indicator is lighten) and the flash is not under the state of over-heat protection or other abnormal situation.**
   →Please downgrade the flash power output. If the flash is in TTL mode, please try to change it to M mode(a preflash is needed in TTL mode).
3. **Whether the distance between the flash trigger and the flash is too close or not**
   →Please turn on the "close distance wireless mode" on the flash trigger (< 0.5m):
   X1 series: press the test button and hold on, then turning it on until the flash ready indicator blinks for 2 times.
   XPro series: Set the C.Fn-DIST to 0-30m.
4. **Whether the flash trigger and the receiver end equipment are in the low battery states or not**
   →Please replace the battery(the flash trigger is recommended to use 1.5V disposable alkaline battery).

Other Applications

Wireless Control Function

The flash unit is built in with a Wireless Control Port so that you can wirelessly adjust the power level of the flash and the flash triggering. To control the flash wirelessly, you need a FT-16S remote control set (on-camera and on-flash). Insert its receive end into the Wireless Control Port on the flash and insert the transmit end into the camera hot shoe. Settings made on the hotshoe-mounted transmit and receive ends will be wirelessly communicated to the flash. Then you can press the camera shutter release button to trigger the flash. You can also hold the transmit end at hand to control your off-camera flash.



For full instructions on the use of FT series remote control, see its user manual.

Sync Triggering

The Sync Cord Jack is a Φ3.5mm plug. Insert a trigger plug here and the flash will be fired synchronously with the camera shutter.

Modeling Flash

If the camera has a depth-of-field preview button, pressing it will fire the flash continuously for 1 second. This is called modeling flash. It enables you to see the shadow effects on the subject and the lighting balance. You can fire the modeling flash during wireless or normal flash shooting.

⚠ • To avoid overheating and deteriorating the flash head, do not fire the modeling flash for more than 10 consecutive times. If you fire the modeling flash 10 consecutive times, allow at least 10 minutes' break for the camera flash.

Auto Focus Assist Beam

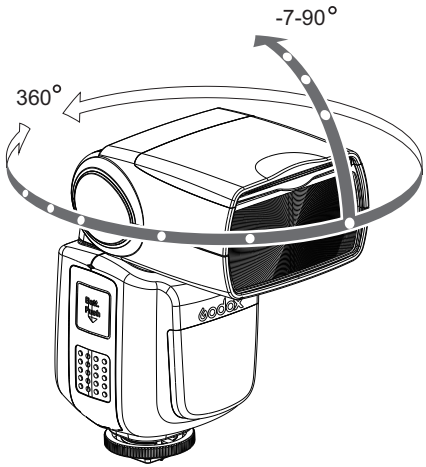
In poorly-lit or low-contrast shooting environments, the built-in auto focus assist beam will automatically light on to make it easier for autofocus. The beam will light up only when autofocus is difficult and get out as soon as the autofocus becomes correct.
If you want to turn off the auto focus assist beam, set the "AF" to "OFF" on the C.Fn settings.

• If you find the auto focus assist beam does not light up, this is because the camera has got a correct autofocus.

Position	Effective Range
Center	0.6~10m / 2.0~32.8 feet
Periphery	0.6~5m / 2.0~16.4 feet

Bounce Flash

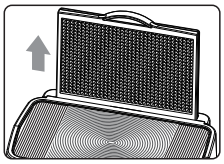
By pointing the flash head toward a wall or ceiling, the flash will bounce off the surface before illuminating the subject. This can soften shadows behind the subject for a more natural-looking shot. This is called bounce flash.
To set the bounce direction, hold the flash head and turn it to a satisfying angle.



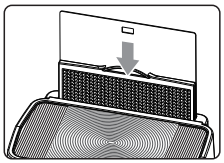
• If the wall or ceiling is too far away, the bounced flash might be too weak and result in underexposure.
• The wall or ceiling should be a plain, white color for high reflectance. If the bounce surface is not white, a color cast may appear in the picture.

Creating a Catchlight

With the catchlight panel, you can create a catchlight in the subject's eyes to add life to the facial expression.



1 Point the flash head upward by 90°.
2 Pull out the wide panel. The catchlight panel will come out at the same time.

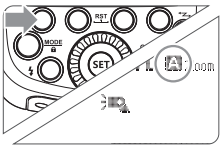


3 Push the wide panel back in.
• Push in only the wide panel.
• Follow the same procedures as for bounce flash.

⚠ • Point the flash head straight ahead and then upward by 90°. The catchlight will not appear if you swing the flash head left or right.
• For best catchlight effect, stay 1.5m/4.9ft away from the subject.

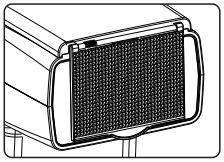
ZOOM: Setting the Flash Coverage and Using the Wide Panel

The flash coverage can be set automatically or manually. It can be set to match the lens focal length from 20 mm to 200mm. Also, with the built-in wide panel, the flash coverage can be expanded for 14mm wide-angle lenses.

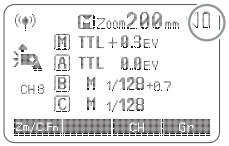


In Manual Zoom mode, press the <ZOOM/C.FN> button.
• Turn the Select Dial to change the flash coverage.
• If < A > is displayed, the flash coverage will be set automatically.

If you set the flash coverage manually, make sure it covers the lens focal length so that the picture will not have a dark periphery.



Using the Wide Panel
Pull out the wide panel and place it over the flash head as shown. The flash coverage will then be extended to 14 mm.
• The catchlight panel will come out at the same time. Push the catchlight panel back in.
• The <**ZOOM/C.FN**> button will not work.



Low Battery Warning

If the battery power is low, < > will appear and blink on the LCD panel. Please replace the battery immediately.

C.Fn: Setting Custom Functions

The following table lists the available and unavailable custom functions of this flash.

C.Fn Custom Functions			
Custom Function Signs	**Function**	**Setting No.**	**Settings & Description**
m/ft	Distance indicator	m	m
		ft	feet
APO	Auto power off	ON	ON
		OFF	OFF
AF	AF-assist beam	ON	ON
		OFF	OFF
Sv APOT	Slave auto power off timer	60min	60min
		30min	30min
BEEP	Beeper	ON	ON
		OFF	OFF
LIGHT	Backlighting time	12sec	Off in 12 sec.
		OFF	Always off
		ON	Always lighting
LCD	LCD contrast ratio	0~9	10 levels
ID	Wireless ID	OFF	Off
		01-99	Choose any figure from 01-99
Sv LED	Wireless LED Lamp	OFF	Off
		ON	on

1. Press <**Zm/C.Fn**> Backlight/Custom Setting Button for 2 seconds or longer until C.Fn menu is displayed. The "Ver x.x" in the top-right corner refers to the software version.
2. Select the Custom Function No.
   - Turn the Select Dial to choose the Custom Functions.
3. Change the Setting.
   - Press<**SET**> button and the Setting No. blinks.
   - Turn the Select Dial to set the desired number. Pressing <**SET**>
4. In the C.Fn states, long press the "Clear" button for 2 seconds until "OK" is displayed on the panel, which means the values in C.Fn can be reset.

Protection Function

1. Over-Temperature Protection

- To avoid overheating and deteriorating the flash head, do not fire more than 30 continuous flashes in fast succession at 1/1 full power. After 30 continuous flashes, allow a rest time of at least 10 minutes.
- If you fire more than 30 continuous flashes and then fire more flashes in short intervals, the inner over-temperature protection function may be activated and make the recycling time over 10 seconds. If this occurs, allow a rest time of about 10 minutes, and the flash unit will then return to normal.
- When the over-temperature protection is started, is shown on the LCD display.

Number of flashes that will activate over-temperature protection:

Power Output Level	Number of Flashes
1/1	30
1/2 +0.7	40
1/2 +0.3	50
1/2	60
1/4(+0.3,+0.7)	100
1/8(+0.3,+0.7)	200
1/16(+0.3,+0.7)	300
1/32(+0.3,+0.7)	500
1/64(+0.3,+0.7)	1000
1/128(+0.3,+0.7)	

Number of flashes that will activate over-temperature protection in high-speed sync triggering mode:

Power Output	Times
1/1	15
1/2(+0.3,+0.7);	20
1/4(+0.3,+0.7)	30
1/8(+0.3,+0.7);	
1/16(+0.3,+0.7)	40
1/32(+0.3,+0.7);	
1/64(+0.3,+0.7);	50
1/128(+0.3,+0.7);	

2. Other Protections

The system provides real-time protection to secure the device and your safety. The following lists prompts for your reference:

Prompts on LCD Panel	Meaning
E1	A failure occurs on the recycling system so that the flash cannot fire. Please restart the flash unit. If the problem still exists, please send this product to a maintenance center.
E2	The system gets excessive heat. Please allow a rest time of 10 minutes.
E3	The voltage on two outlets of the flash tube is too high. Please send this product to a maintenance center.
E9	There are some errors occurred during the upgrading process. Please using the correct firmware upgrade method.

Technical Data

Model		TT685N
• Type		
Compatible Cameras		Nikon DSLR cameras (i-TTL autoflash)
Guide No. (1/1 output @ 200mm)		60 (m ISO 100) 190 (feet ISO 100)
Flash Coverage		20 to 200mm (14mm with wide panel)
		• Auto zoom (Flash coverage set automatically to match the lens focal length and image size)
		• Manual zoom
		• Swinging/tilting flash head (bounce flash): 0 to 360° horizontally and -7° to 90° vertically
Flash Duration		1/300 to 1/20000 seconds
• Exposure Control		
Exposure control system		i-TTL autoflash and manual flash
Flash exposure compensation (FEC)		Manual. FEB: ±3 stops in 1/3 stop increments (Manual FEC and FEB can be combined.)
Sync mode		High-speed sync (up to 1/8000 seconds), first-curtain sync, and second-curtain sync
Multi flash		Provided (up to 90 times, 100Hz)
• Wireless Flash (Optic transmission and 2.4G transmission)		
Wireless flash function		Master, Slave, Off
Controllable slave groups		3 (A, B, and C)
Transmission range (approx.)	Optic	Indoors: 12 to 15 m / 39.4 to 49.2 ft.
		Outdoors: 8 to 10 m / 26.2 to 32.8 ft.
		Master unit reception angle: ±40° horizontally, ±30° vertically
	2.4G	100m
Channels	Optic	4 (1, 2, 3, and 4)
	2.4G	32 (1~32)
Slave-ready indicator		Two red indicators blink
Modeling flash		Fired with camera's depth-of-field preview button
• Auto Focus Assist Beam		
Effective range (approx.)		Center: 0.6~10m / 2.0~32.8 feet
		Periphery: 0.6~5m / 2.0~16.4 feet
• Power Supply		
AA batteries		Ni-MH batteries (recommended) or 4*LR6 alkaline batteries
Recycle time		Approx. 0.1-2.6 seconds (eneloop Ni-MH batteries of Panasonic). Red LED indicator will light up when the flash is ready.
Full power flashes		Approx. 230 (2500mA Ni-MH batteries)
Power saving		Power off automatically after approx. 90 seconds of idle operation. (60 minutes if set as slave)
• Sync Triggering Mode		Hotshoe, 3.5mm sync line, Wireless control port
• Color Temperature		5600±200k
• Dimensions		
W x H x D		64*76*190 mm
Weight without battery		410g
Weight with battery		530g

Troubleshooting

If there is a problem, refer to this Troubleshooting Guide.

The Camera Flash cannot be charged.

- The battery is installed in the wrong direction.
  →Install the battery in the correct direction.
- The camera flash's internal battery is exhausted.
  →If < [ ] > appears and blinks on the LCD panel, replace the battery immediately.

The Camera Flash does not fire.

- The camera flash is not attached securely to the camera.
  →Attach the camera's mounting foot securely to the camera.
- The electrical contacts of the Camera Flash and camera are dirty.
  →Clean the contacts.

The power turns off by itself.

- After 90 seconds of idle operation, auto power off took effect if the flash is set as master.
  →Press the shutter button halfway or press any flash button to wake up.
- After 60 minutes (or 30 minutes) of idle operation, the flash unit will enter sleep mode if it is set as slave.
  →Press any flash button to wake up.

Auto zoom does not work.

- The camera flash is not attached securely to the camera.
  →Attach the camera flash's mounting foot to the camera.

The flash exposure is underexposed or overexposed.

- You used high-speed sync.
  →With high-speed sync, the effective flash range will be shorter. Make sure the subject is within the effective flash range displayed.
- You used Manual Flash mode.
  →Set the flash mode to **i-TTL** or modify the flash output.

Photos have dark corners or only parts of the target subject are illuminated.

- The focal length of lens exceeds the flash coverage.
  →Check the flash coverage you set. This flash unit has the flash coverage between 20 and 200mm, which fits medium-format cameras. Pull the wide panel out to extend the flash coverage.

Firmware Upgrade

This flash supports firmware upgrade through the USB port. Update information will be released on our official website.

USB connection line is not included in this product. The USB port is a standard Micro USB socket. Common USB connection line is applicable.

Compatible Camera Models

This flash unit can be used on the following

Nikon DSLR camera models:

D800	D700	D7100	D7000	D5200	D5100	D5000
D300	D300S	D3200	D3100	D3000	D200	D70S
D810	D610	D90				

This table only lists the tested camera models, not all Nikon DSLR series cameras. For the compatibility of other camera models, a self-test is recommended.
Rights to modify this table are retained.

Maintenance

- Shut down the device immediately should abnormal operation be detected.
- Avoid sudden impacts and the product should be dedusted regularly.
- It is normal for the flash tube to be warm when in use. Avoid continuous flashes if unnecessary.
- Maintenance of the flash must be performed by our authorized maintenance department which can provide original accessories.
- This product, except consumables e.g. flash tube, is supported with a one-year warranty.
- Unauthorized service will void the warranty.
- If the product had failures or was wetted, do not use it until it is repaired by professionals.
- Changes made to the specifications or designs may not be reflected in this manual.