### **Data Sheet**

# ASHCROFT® Trust the shield.®

# C-600A-01 Duratemp® Thermometer

#### **FEATURES**

- Extreme resistance to shock and vibration
- Exclusive movementless design eliminates wear and increases product life
- No head or elevation error due to bulb placement
- Maxivision<sup>®</sup> dial for precise readings (minimize parallax reading errors)
- Gas-operated molecular sieve

#### **TYPICAL USES**

- Offshore oil rigs
- Chemical and petrochemical plants
- Water and wastewater temperature control
- Pulp and paper
- Refineries
- Power
- General industrial
- Equipment skids
- HVAC

Pointer:

- Pharmaceutical/biotech
- Food and beverage



C-600A-01

4½" dial size

<b>SPECIFICATIONS</b>	
Accuracy:	±1% of span
Size:	4½″
Range:	-320 °F/200 °F to 400 °F/1200 °F (-200 °C/100 °C to 200 °C/650 °C)
Over Range:	125% of span
Mounting & Connection:	Surface/Lower, Flush/Rear
Bulb Size:	3" Long x ¾" 0.D.
Bulb Style:	12" Bendable extension with ½ NPT union connection Plain bulb with rigid extension no union Plain bulb with rigid extension ½ NPT union on armor 18" Bendable extension with ½ NPT union connection 24" Bendable extension with ½ NPT union connection
Line Length:	5ft to 80ft in standard increments
Dial:	Maxivision® anti-parallax dial, black markings on a white dial
Head/Elevation Error:	None
Hand Set:	Stationary red hand set, Externally adjustable

### **KEY BENEFITS**

- Impact-resistant stainless steel case
- Bayonet ring for easy glass replacement or pointer adjustment
- Extremely versatile for use on many applications
- 5-year limited warranty
- Ideal for extreme process temperature

THERMAL SYSTEM										
Bulb/Bendable ext. Material	Armor Ma	aterial	Capillary Mater	ial	Connection Material					
316 SS	AISI 302 S Armo		316 SS		303 SS					
NON-WETTED	СОМРО	DNENT	rs							
Window	1	Case			Ring					
Glass, Safety of Acrylic		304 SS	3	304 SS bayonet ring						

TEMPERATURE LIMITS							
Version	Ambient						
Dry	-13 °F (-25 °C) to 160 °F (71 °C)						

Red set hand Black, Aluminum

### **Data Sheet**



# C-600A-01 Duratemp® Thermometer

Case Style C-600A-01-C01 - 4½" Case size, SS bayonet ring, surface mount, lower connection C-600A-01-C11 - 4½" Case size, SS bayonet ring, flush mount, rear connection Bulb Style (Note 1) B01 - 12" Bendable extension with ½ NPT union connection B03 - Plain bulb with rigid extension, no union B08 - Plain bulb with rigid extension, with ½ NPT union or armor (Not available with A3 armor style) B17 - 18" Bendable extension with ½ NPT union connection B18 - 24" Bendable extension with ½ NPT union connection Armor Style A1 - Stainless steel spring A1 A2 - Stainless steel interlock A3 - PVC coated stainless steel interlock Line Length (Spaillar) length is measured from bottom of case to top of bulb extension) Li01 - 5' Li05 - 15' Li07 - 20' Li29 - 25' Li09 - 30' Li30 - 35' Li11 - 40' Li53 - 45' Li11 - 40' Li53 - 45' Li15 - 60' Li19 - 80' Li19	ORDERING CODE	Example:	C-600A-01-C01	B01	<b>A</b> 1	L01	AB	XNH
C-600A-01-C11 - 4% Case size, SS bayonet ring, flush mount, rear connection  Bulb Style (Note 1)  B01 - 12 Bendable extension with ½ NPT union connection  B03 - Plain bulb with rigid extension, no union  B03 - Plain bulb with rigid extension, ½ NPT union connection  B17 - 18 Bendable extension with ½ NPT union connection  B18 - 24 Bendable extension with ½ NPT union connection  Armor Style  A1 - Stainless steel spring  A1 - A2 - Stainless steel spring  A1 - A2 - Stainless steel interlock  Line Length (Capillary length is measured from bottom of case to top of bulb extension)  L01 - 5'  L03 - 10'  L03 - 10'  L03 - 10'  L03 - 10'  L03 - 36'  L11 - 40'  L53 - 45'  L13 - 50'  L19 - 80'  Ranges (See table below for range codes)  A8 320' F/200' F  AB - 30' F/200	Case Style							
C-600A-01-C11 - 41/2 Case size, SS bayonet ring, flush mount, rear connection  Bulb Style (Note 1)  B01 - 12/2 Bendable extension with ½ NPT union connection  B03 - Plain bulb with rigid extension, in o union  B03 - Plain bulb with rigid extension, in o union  B04 - Plain bulb with rigid extension, ½ NPT union connection  B17 - 18/2 Bendable extension with ½ NPT union connection  B18 - 24/2 Bendable extension with ½ NPT union connection  Armor Style  A1 - Stainless steel spring  A1 - A2 - Stainless steel interlock  L10 - 5'  L10 - 15'  L10 - 15'  L10 - 15'  L10 - 15'  L10 - 20'  L29 - 25'  L10 - 30'  L30 - 35'  L11 - 40'  L53 - 45'  L13 - 50'  L11 - 80'  L19 - 80'  Ranges (See table below for range codes)  A8 320' F/200' F  AB - 320	C-600A-01-C01 - 41/2" Case size, SS bayonet ring, surface mount, lower	connection	C-600A-01-C01					
B01 - 12" Bendable extension with ½ NPT union connection B03 - Plain bulb with rigid extension, no union B08 - Plain bulb with rigid extension, no union B08 - Plain bulb with rigid extension, ix NPT union on armor (Not available with A3 armor style) B17 - 18" Bendable extension with ½ NPT union connection B18 - 24" Bendable extension with ½ NPT union connection A1 - Stainless steel pring A1 - Stainless steel spring A2 - Stainless steel interlock A3 - PVC coated stainless steel interlock Line Length (Capillary length is measured from bottom of case to top of bulb extension) L01 - 5" L03 - 10" L05 - 15" L07 - 20" L29 - 25" L09 - 30" L29 - 25" L19 - 30" L11 - 40" L53 - 45" L11 - 40" L15 - 60" L19 - 80" Ranges (See table below for range codes) AB320 "F/200 "F AB - 320 "F/200 "F AB - 320 "F/200 "F AB  Options (if choosing an option(s) must include an "X") X CS - Dual scale DM - Dial marking EO - Externally adjustable maximum pointer EO - Externally adjustable maximum pointer EO - Externally adjustable maximum pointer EO - Externally adjustable minimum pointer NH - Stainless steel tag NH PD - Acrylic window SG - Safety glass								
B03 - Plain bulb with rigid extension, no union B08 - Plain bulb with rigid extension, % NPT union on armor (Not available with A3 armor style) B17 - 18' Bendable extension with ½ NPT union connection B18 - 24' Bendable extension with ½ NPT union connection Armor Style A1 - Stainless steel spring A1 A2 - Stainless steel interlock A3 - PVC coated stainless steel interlock Line Length (Capillary length is measured from bottom of case to top of bulb extension) L01 - 5' L03 - 10' L05 - 15' L07 - 20' L29 - 25' L09 - 30' L30 - 35' L11 - 40' L53 - 45' L13 - 50' L15 - 60' L19 - 80' Ranges (See table below for range codes) AB320 °F/200 °F AB - 320 °F/200 °F AB - Options (if choosing an option(s) must include an "X") X	Bulb Style (Note 1)							
B08 - Plain bulb with rigid extension, ½ NPT union on armor (Not available with A3 armor style) B17 - 18" Bendable extension with ½ NPT union connection B18 - 24" Bendable extension with ½ NPT union connection Armor Style A1 - Stainless steel spring A2 - Stainless steel interlock A3 - PVC coated stainless steel interlock Line Length (Capillary length is measured from bottom of case to top of bulb extension) L01 - 5' L03 - 10' L05 - 15' L07 - 20' L29 - 25' L09 - 30' L30 - 35' L11 - 40' L53 - 45' L13 - 50' L15 - 60' L15 - 60' L19 - 80' Ranges (See table below for range codes) A8320 "F/200 "F AB Options (If choosing an option(s) must include an "X") C5 - Dual scale DM - Dial marking EO - Externally adjustable maximum pointer EO - Externally adjustable minimum pointer	B01 - 12" Bendable extension with ½ NPT union connection			B01				
### B17 - 18" Bendable extension with ½ NPT union connection ### B18 - 24" Bendable extension with ½ NPT union connection ### A1" - Stainless steel spring	B03 - Plain bulb with rigid extension, no union							
B18 - 24" Bendable extension with ½ NPT union connection   Armor Style	B08 - Plain bulb with rigid extension, ½ NPT union on armor (Not availab	le with A3 armor	r style)					
Amor Style A1 - Stainless steel spring A2 - Stainless steel interlock A3 - PVC coated stainless steel interlock Line Length (Capillary length is measured from bottom of case to top of bulb extension) L01 - 5' L03 - 10' L03 - 10' L05 - 15' L07 - 20' L29 - 25' L09 - 30' L30 - 35' L11 - 40' L53 - 45' L11 - 80' L13 - 60' L19 - 80' Ranges (See table below for range codes) AB320' *F/200 *F AB Options (if choosing an option(s) must include an "X") CS - Dual scale DM - Dial marking EO - Externally adjustable red set hand EP - Externally adjustable maximum pointer EO - Externally adjustable minimum pointer EN + Stainless steel tag NH PD - Acrylic window SG - Safety glass	B17 - 18" Bendable extension with ½ NPT union connection							
A1 - Stainless steel spring A1 A2 - Stainless steel interlock A3 - PVC coated stainless steel interlock Line Length (Capillary length is measured from bottom of case to top of bulb extension) L01 - 5' L01 L03 - 10' L05 - 15' L07 - 20' L29 - 25' L09 - 30' L39 - 30' L30 - 36' L11 - 40' L53 - 45' L11 - 50' L13 - 50' L15 - 60' L19 - 80' Ranges (See table below for range codes) AB - 320 °F/200 °F AB - 320 °F/200 °F AB Options (if choosing an option(s) must include an "X") CS - Dual scale DM - Dial marking EC - Externally adjustable red set hand EP - Externally adjustable maximum pointer EC - Externally adjustable maximum pointer EC - Externally adjustable minimum pointer NH - Stainless steel tag NH PD - Acrylic window SG - Safety glass	B18 - 24" Bendable extension with ½ NPT union connection							
A2 - Stainless steel interlock A3 - PVC coated stainless steel interlock  Line Length (Capillary length is measured from bottom of case to top of bulb extension)  L01 - 5° L03 - 10° L05 - 15° L07 - 20° L29 - 25° L09 - 30° L30 - 35° L11 - 40° L53 - 45° L13 - 50° L15 - 60° L19 - 80° Ranges (See table below for range codes)  A6 320° F/200° F  AB  Options (if choosing an option(s) must include an "X")  C7 - Externally adjustable maximum pointer  E7 - Externally adjustable maximum pointer  E8 - Externally adjustable minimum pointer  E8 - Safety glass  NH  NH  NH  NH  PD - Acrylic window  S6 - Safety glass	Armor Style							
A3 - PVC coated stainless steel interlock  Line Length (Capillary length is measured from bottom of case to top of bulb extension)  L01 - 5' L01  L03 - 10'  L05 - 15'  L07 - 20'  L29 - 25'  L09 - 30'  L30 - 35'  L11 - 40'  L53 - 45'  L13 - 50'  L15 - 60'  L19 - 80'  Ranges (See table below for range codes)  AB - 320 °F/200 °F  AB  Options (If choosing an option(s) must include an "X")  CS - Dual scale  DM - Dial marking  EO - Externally adjustable red set hand  EF - Externally adjustable maximum pointer  EQ - Externally adjustable minimum pointer  EN - Stainless steel tag  NH  PD - Acrylic window  SG - Safety glass	A1 - Stainless steel spring				A1	-		
Line Length (Capillary length is measured from bottom of case to top of bulb extension)	A2 - Stainless steel interlock					-		
L01 - 5' L01 L03 - 10' L05 - 15' L07 - 20' L29 - 25' L09 - 30' L30 - 35' L11 - 40' L53 - 45' L13 - 50' L15 - 60' L19 - 80' Ranges (See table below for range codes)  AB320 °F/200 °F AB Options (If choosing an option(s) must include an "X")  CS - Dual scale  DM - Dial marking EO - Externally adjustable maximum pointer EQ - Externally adjustable minimum pointer EQ - Externally adjustable minimum pointer EQ - Externally adjustable minimum pointer EN - Safety glass	A3 - PVC coated stainless steel interlock					-		
L03 - 10"	Line Length (Capillary length is measured from bottom of case to top of	bulb extension)						
L05 - 15'   L07 - 20'   L29 - 25'   L09 - 30'   L30 - 35'   L11 - 40'   L53 - 45'   L13 - 50'   L15 - 60'   L19 - 80'   Ranges (See table below for range codes)   AB - 320 °F/200 °F   AB   Options (If choosing an option(s) must include an "X")   X CS - Dual scale   DM - Dial marking   EO - Externally adjustable maximum pointer   EQ - Externally adjustable minimum pointer   EQ - Externally adjustable minimum pointer   NH - Stainless steel tag   NH PD - Acrylic window   SG - Safety glass   NH   SG - SAfety glas	L01 - 5'					L01		
L07 - 20' L29 - 25' L09 - 30' L30 - 35' L11 - 40' L53 - 45' L13 - 50' L15 - 60' L19 - 80' Ranges (See table below for range codes) AB320 °F/200 °F AB Options (If choosing an option(s) must include an "X") CS - Dual scale DM - Dial marking EO - Externally adjustable maximum pointer EQ - Externally adjustable minimum pointer EQ - Externally adjustable minimum pointer NH - Stainless steel tag NH PD - Acrylic window SG - Safety glass	L03 - 10′							
L29 - 25' L09 - 30' L30 - 35' L11 - 40' L53 - 45' L13 - 50' L15 - 60' L19 - 80' Ranges (See table below for range codes) AB320 °F/200 °F AB  Options (If choosing an option(s) must include an "X")  CS - Dual scale DM - Dial marking EO - Externally adjustable red set hand EP - Externally adjustable maximum pointer EQ - Externally adjustable minimum pointer NH - Stainless steel tag NH PD - Acrylic window SG - Safety glass	L05 - 15′							
L09 - 30° L30 - 35° L11 - 40° L53 - 45° L13 - 50° L15 - 60° L19 - 80° Ranges (See table below for range codes) AB 320 °F/200 °F AB Options (If choosing an option(s) must include an "X") CS - Dual scale DM - Dial marking EO - Externally adjustable red set hand EP - Externally adjustable maximum pointer EQ - Externally adjustable minimum pointer EQ - Externally adjustable minimum pointer NH - Stainless steel tag NH PD - Acrylic window SG - Safety glass	L07 - 20'							
L30 - 35' L11 - 40' L53 - 45' L13 - 50' L15 - 60' L19 - 80' Ranges (See table below for range codes) AB320 °F/200 °F AB Options (If choosing an option(s) must include an "X") CS - Dual scale DM - Dial marking EO - Externally adjustable red set hand EP - Externally adjustable maximum pointer EQ - Externally adjustable minimum pointer NH - Stainless steel tag NH PD - Acrylic window SG - Safety glass	L29 - 25'							
L11 - 40° L53 - 45° L13 - 50° L15 - 60° L19 - 80°  Ranges (See table below for range codes)  AB320 °F/200 °F  Options (If choosing an option(s) must include an "X")  CS - Dual scale  DM - Dial marking  EO - Externally adjustable red set hand  EP - Externally adjustable maximum pointer  EQ - Externally adjustable minimum pointer  NH - Stainless steel tag  NH  PD - Acrylic window  SG - Safety glass	L09 - 30'							
L53 - 45' L13 - 50' L15 - 60' L19 - 80'  Ranges (See table below for range codes)  AB320 °F/200 °F  Options (If choosing an option(s) must include an "X")  CS - Dual scale  DM - Dial marking  EO - Externally adjustable red set hand  EP - Externally adjustable maximum pointer  EQ - Externally adjustable minimum pointer  NH - Stainless steel tag  NH  PD - Acrylic window  SG - Safety glass	L30 - 35′							
L13 - 50' L15 - 60' L19 - 80'  Ranges (See table below for range codes)  AB320 °F/200 °F  Options (If choosing an option(s) must include an "X")  CS - Dual scale  DM - Dial marking  EO - Externally adjustable red set hand  EP - Externally adjustable maximum pointer  EQ - Externally adjustable minimum pointer  NH - Stainless steel tag  NH  PD - Acrylic window  SG - Safety glass	L11 - 40′							
L15 - 60' L19 - 80'  Ranges (See table below for range codes)  AB320 °F/200 °F  Options (If choosing an option(s) must include an "X")  CS - Dual scale  DM - Dial marking  EO - Externally adjustable red set hand  EP - Externally adjustable maximum pointer  EQ - Externally adjustable minimum pointer  NH - Stainless steel tag  NH  PD - Acrylic window  SG - Safety glass	L53 - 45′							
Ranges (See table below for range codes)  AB320 °F/200 °F  Options (If choosing an option(s) must include an "X")  CS - Dual scale  DM - Dial marking  EO - Externally adjustable red set hand  EP - Externally adjustable maximum pointer  EQ - Externally adjustable minimum pointer  NH - Stainless steel tag  NH  PD - Acrylic window  SG - Safety glass	L13 - 50′							
Ranges (See table below for range codes)  AB320 °F/200 °F  AB  Options (If choosing an option(s) must include an "X")  CS - Dual scale  DM - Dial marking  EO - Externally adjustable red set hand  EP - Externally adjustable maximum pointer  EQ - Externally adjustable minimum pointer  NH - Stainless steel tag  NH  PD - Acrylic window  SG - Safety glass	L15 - 60′							
AB320 °F/200 °F  Options (If choosing an option(s) must include an "X")  CS - Dual scale  DM - Dial marking  EO - Externally adjustable red set hand  EP - Externally adjustable maximum pointer  EQ - Externally adjustable minimum pointer  NH - Stainless steel tag  NH  PD - Acrylic window  SG - Safety glass	L19 - 80′							
Options (If choosing an option(s) must include an "X")  CS - Dual scale  DM - Dial marking  EO - Externally adjustable red set hand  EP - Externally adjustable maximum pointer  EQ - Externally adjustable minimum pointer  NH - Stainless steel tag  NH  PD - Acrylic window  SG - Safety glass	Ranges (See table below for range codes)							
CS - Dual scale  DM - Dial marking  EO - Externally adjustable red set hand  EP - Externally adjustable maximum pointer  EQ - Externally adjustable minimum pointer  NH - Stainless steel tag  NH  PD - Acrylic window  SG - Safety glass	AB320 °F/200 °F						AB	
DM - Dial marking  EO - Externally adjustable red set hand  EP - Externally adjustable maximum pointer  EQ - Externally adjustable minimum pointer  NH - Stainless steel tag  NH  PD - Acrylic window  SG - Safety glass	Options (If choosing an option(s) must include an "X")							X
EO - Externally adjustable red set hand  EP - Externally adjustable maximum pointer  EQ - Externally adjustable minimum pointer  NH - Stainless steel tag  NH  PD - Acrylic window  SG - Safety glass	CS - Dual scale							
EP - Externally adjustable maximum pointer  EQ - Externally adjustable minimum pointer  NH - Stainless steel tag  NH  PD - Acrylic window  SG - Safety glass	DM - Dial marking							
EQ - Externally adjustable minimum pointer  NH - Stainless steel tag  NH  PD - Acrylic window  SG - Safety glass	EO - Externally adjustable red set hand							
NH - Stainless steel tag PD - Acrylic window SG - Safety glass	EP - Externally adjustable maximum pointer							
PD - Acrylic window SG - Safety glass	EQ - Externally adjustable minimum pointer							
SG - Safety glass	NH - Stainless steel tag							NH
SH - Stationary red set hand	SG - Safety glass							
	SH - Stationary red set hand							

### **NOTES**

- 1. Minimum recommended insertion length ("u" dimension) in liquids is 4 inches and in gases is 6 inches for standard \( \%' \times 3'' \times 1'' \times 3'' \times 1'' \times 1
- 2. Thermowells must be used on any application where the bulb of the thermometer may be exposed to pressure, corrosive fluids, or velocity. Additionally, the use of a thermowell permits instrument interchangeability or recalibration without shutting down the process.

### **Data Sheet**



# C-600A-01 Duratemp® Thermometer

TEM	TEMPERATURE RANGES									
	Single	Rang	е		Dual Range					
Ra	inge Code °F	Ra	inge Code °C		Range Code					
AA	-320 °F/300 °F	AY	-200 °C/100 °C	DP	-80 °C/40 °C and -100 °F/100 °F					
AB	-320 °F/200 °F	AX	-200 °C/40 °C	DT	-40 °C/80 °C and -40 °F/180 °F					
AC	-320 °F/100 °F	AZ	-200 °C/150 °C	CF	0 °C/300 °C and 50 °F/550 °F					
AD	-200 °F/100 °F	BE	-120 °C/40 °C	DK	0 °C/200 °C and 50 °F/400 °F					
AE	-100 °F/100 °F	BL	-80 °C/40 °C	CE	0 °C/120 °C and 20 °F/240 °F					
AF	-100 °F/200 °F	BM	-80 °C/100 °C	DR	10 °C/150 °C and 50 °F/300 °F					
AG	-40 °F/180 °F	DA	-40 °C/160 °C							
CN	-20 °F/300 °F	BN	-40 °C/80 °C							
AH	-20 °F/120 °F	DS	-30 °C/150 °C							
AM	50 °F/400 °F	BP	-30 °C/50 °C							
AR	50 °F/750 °F	DB	-10 °C/110 °C							
AJ	20 °F/160 °F	BR	-10 °C/70 °C							
AK	20 °F/240 °F	BW	0 °C/400 °C							
AL	50 °F/300 °F	BU	0 °C/300 °C							
AN	50 °F/550 °F	BY	0 °C/200 °C							
AT	400 °F/1200 °F	BS	0 °C/120 °C							
		BT	10 °C/150 °C							
		BJ	200 °C/650 °C							

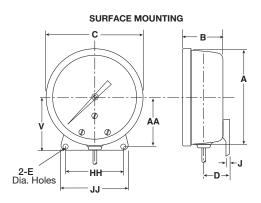


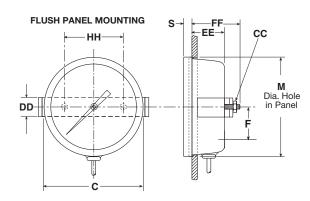
### C-600A-01 Duratemp® Thermometer

### **DIMENSIONS** in [] are millimeters

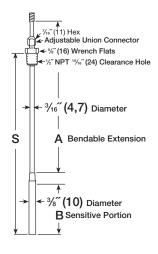
For reference only, consult Ashcroft for specific dimensional drawings

Dial Size Inches	A	AA	В	С	СС	D	DD	E	EE	F	FF	нн	J	JJ	М	S	U
41/2	4 <sup>23</sup> / <sub>32</sub> [120]	2% [67]	2½ [52]	5% [130]	10-24	1½6 [27]	1 [25]	7/ <sub>32</sub> [6]	1% [41]	1% [141]	21/4 [57]	3 [76]	½6 [2]	3½ [89]	4 <sup>25</sup> / <sub>32</sub> [121]	<sup>7</sup> / <sub>16</sub> [11]	1½6 [37]





### Bulb Style B01, B17 & B18



The bendable extensions with union connections. B01 [12" bendable extension] is the standard Duratemp bulb style and is suitable for a variety of insertion lengths and lagging requirements. B17 is a 18" bendable extension, B18 is a 24" bendable extension.

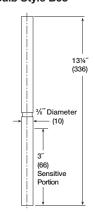
The union connection on all three styles is pressure tight and can be freely moved the entire length of the bendable portion. After installation, the bendable extension may be formed to suit the application.

#### Armor Style A1

AISI 302 stainless steel spring armor is supplied as standard. Originally designed for U.S. Navy Hi Shock thermometers

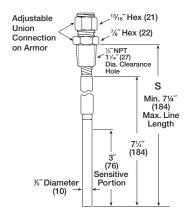
Bulb Code	Bulb Size B	Α	S MAX.	S MIN.		
B01	3	12	15	4		
	[76]	[305]	[381]	[102]		
B17	3	18	21	4		
	[76]	[457]	[533]	[102]		
B18	3	24	27	4		
	[76]	[610]	[686]	[102]		

### **Bulb Style B03**



13" plain bulb for applications used in open tanks where pressures and velocities are negligible

### **Bulb Style B08**



The compression fitting fastens anywhere along the armored line. This Bulb Style is well suited for insertion requirements in excess of 13½". The B08 style is not a pressure tight connection. A thermowell is recommended for this style and for all bulb styles.

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